

MAJOR INFRASTRUCTURE PROJECTS IN MEXICO

A Resource Guide for U.S. Industry



Sponsored by the U.S. Trade and Development Agency





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About This Guide

The U.S. Trade and Development Agency (USTDA) helps companies create U.S. jobs through the export of U.S. goods and services for priority development projects in emerging economies. USTDA links U.S. businesses to export opportunities by funding project planning activities, pilot projects and reverse trade missions while creating sustainable infrastructure and economic growth in partner countries.

This guide has been developed to provide potential U.S. exporters with an overview of México's infrastructure sectors, the sector development plans in place through 2018, and to provide profiles of a sample of specific upcoming projects of potential interest.

Currency amounts converted from Mexican Pesos to United States dollars have been done so using a rate of 13.12 pesos to one dollar. Due to fluctuations in currency values, different levels of engineering and cost estimation completion for different projects, and differing timing of cost information publication, the monetary values within this report should only be considered approximate.

This document is an interim product. Further elaboration of transportation and telecommunications projects will be provided in the final version to be published later in 2014. This will include additional sections describing project opportunities in the energy and water sectors.

Authors

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1. Introduction

As part of a series of major reforms and initiatives the government of México released in May of 2014 a multi-year National Infrastructure Program (PNI) that outlines the major programs and projects intended for execution through 2018. This is a comprehensive document that covers the sectors of communications, transportation, urban and rural development, energy, water, health, and tourism. In total, the government anticipates nearly \$600 billion in infrastructure investment to occur in this period, from a mix of federal, local and private sources.



Figure 1: Total Investments Projected by Sector in the PNI in Billions

The U.S. Trade and Development Agency has initiated development of this infrastructure project guide as a reference tool to help U.S. companies learn more about some of the many exciting commercial opportunities in México. This document will ultimately cover, and be organized according to, the following sectors: energy, communications, transportation and water. This interim version of the Guide covers the communications and transportation sectors, based on information that could be collected and prepared by the time of publication. A later version of this Guide will include the additional infrastructure sectors and further elaboration of additional project opportunities in communications and transportation.

The Guide begins with a general background section on México, providing information on the history, society, and economy. It describes the historic reforms that are underway. Following this are infrastructure sector chapters. For each sector background information is provided to give readers a sense of the scale and type of current infrastructure in place. The relevant major government institutions and their roles are identified. The challenges faced by the sector are described. The government’s policy objectives and goals are covered, followed by the proposed solutions in the form of program and project investments. Each fully elaborated project profile seeks to provide readers with key information including: scale, scope and budget of the planned activity; schedule for procurement and works; U.S. export potential, and; points of contact for further information. The final chapters provide information on project financing and export support resources relevant to U.S. companies in the market, a list of links to useful external resources, and a glossary.

2. Country Background

México is the southernmost country making up the North American continent, stretching from the United States' southern border to Guatemala and Belize. The total land area of this geographically diverse country is 1.96 million square kilometers, which is slightly larger than the state of Alaska. The climate varies from tropical to arid, and the terrain includes high rugged mountains, deserts, plains and plateaus.



Figure 2: General Map of México

México has been inhabited for over 23,000 years. A rich and complex indigenous population historically included societies such as the Olmec, Maya, Toltec and Aztec. These civilizations were marked by sophisticated governing regimes and accomplishments in many areas, including engineering, architecture, agriculture, mathematics and astronomy. By the early 16th century México City (Tenochtitlan) was on par with other major cities of the world with as many as 60,000 inhabitants.



Figure 3: Signing of the Pacto por México in 2012

In 2012 Enrique Peña Nieto was elected to the presidency. In an unprecedented development for México the three major political parties together negotiated a common vision for the country called the *Pacto por México*. This agreement covered a wide range of areas including economic development, labor, education, fiscal and financial policies, security and justice, transparency, and governance. Based on this agreement the new administration developed the National Development Plan to provide a strategic common policy framework that outlines the principals and objectives for development and reform across many sectors of Mexican society through 2018.



Figure 4: México's National Development Plan

The five national goals of the plan are:

- A Peaceful México.
- An Inclusive México.
- A México with Quality Education.
- A Prosperous México.
- A México Assuming Global Responsibilities.

With three cross-cutting strategies:

- Democratization of Productivity.
- A Modern and Accessible Government.
- Perspective of Gender.

From this substantial planning document the different sector reforms and strategies are being updated to reflect these themes and contribute to the National Development Goals. This process includes release of ambitious national plans and legislative packages for transportation, energy, telecommunications and other sectors. The National Development Plan, and subsidiary plans and efforts, are examples of an approach inclusive of the new political reality in México, where multiple parties broadly representative of society have a shared voice in developing consensus, and participation in policy making occurs across branches of government.

2.1 People, Government and Society

México's government is a federal republic, composed of 31 states and the Federal District of México City. The president of the republic performs the roles of both head of government and chief of state. Similar to the United States, México also has a Supreme Court and a bicameral legislature composed of a Senate and Chamber of Deputies. A diverse array of parties contest the elections for the presidency and Congress. The country has a civil law system. México is an active participant and leader in a wide range of international organizations ranging from the G-20 and Bank for International Settlements to global and regional multilateral development banks, the United Nations, International Labor Organization and the World Trade Organization.

México's population in 2012 was just under 121 million, placing it 12th in the world. The country is relatively young with a median age of only 28 years and a population growth rate of just over 1%. Spanish is spoken by 99% of Mexicans with English frequently spoken to some degree among the professional and business classes. Literacy is relatively high at 93%. Over 90% of Mexicans identify as Christian, predominantly Roman Catholic. México is an urbanized nation with over 78% of the population living in cities and an urbanization rate of 1.2% per year. México City, with more than 19 million inhabitants, is the third largest metropolitan area in the Western Hemisphere, after only New York City and Sao Paulo, Brazil. Guadalajara, Monterrey and Puebla, in order, are other major urban areas.

The history of México and the United States is deeply intertwined. Today it is estimated that over 10% of the U.S. population is Mexican-American. As cross-border political, business, tourism and family connections continue to grow at a rapid pace, the ties between the peoples of our two nations promise to only become stronger.

2.2 Economy and Trade

2.2.1 Economy

México is an industrialized nation with a diverse economy. 62% of the labor force is in services, 24% in industry and 13% in agriculture. GDP per capita is approximately one-third of that in the U.S. and the food-based poverty rate remains a relatively high 52% of the population. Following years of deficit spending and tight monetary policy, México's economy suffered a major shock known as the Peso Crisis in 1994. This resulted in a devaluation of nearly 50% which inflicted hardship across Mexican society, destabilized financial markets around the world and necessitated multilateral intervention by global partners to support the economy. This disruption has been seen as galvanizing Mexican society and contributing to the significant political opening that occurred in 2000.

Since this event, and the associated political transition, México has re-emerged on a path of growth, establishing and maintaining macroeconomic stability, while continuing to implement major growth-oriented structural reforms. México has adopted a regime of prudent fiscal and monetary management which has helped to support the substantial increases in trade and foreign investment that have been witnessed, and enabling the country to successfully weather the global recession that marked the end of the last decade. México today is strongly integrated with the global economy through trade and institutional ties, and ranks as the 14th largest economy in the world with a GDP of \$1.3 trillion, ahead of major industrialized economies such as Switzerland, South Korea and Turkey. Cross-sectoral institutional reforms, particularly those underway in the energy sector, are expected to unleash significant improvements in productivity and growth within México's economy in years to come. The International Monetary Fund projects growth in real GDP rising from 1.2% in 2013 to 3.8% by 2018, with inflation moderating to 3% over the same period. The petroleum industry remains a key sector, with oil exports contributing \$50 billion to the current account in 2013, though this was a fraction of the \$302 billion generated by manufacturing.

2.2.2 Trade

The United States is México's largest export market and México is the second largest market for products exported from the U.S. Since its enactment in 1994, the North American Free Trade Agreement (NAFTA) has boosted the strong manufacturing industries in México and the U.S., facilitating an active exchange in parts and components along cross-border supply chains for various sectors. NAFTA is credited with the steady and long-term increase in U.S.-México bilateral trade, which has risen dramatically from \$88 billion in 1993 to \$460 billion in 2011.

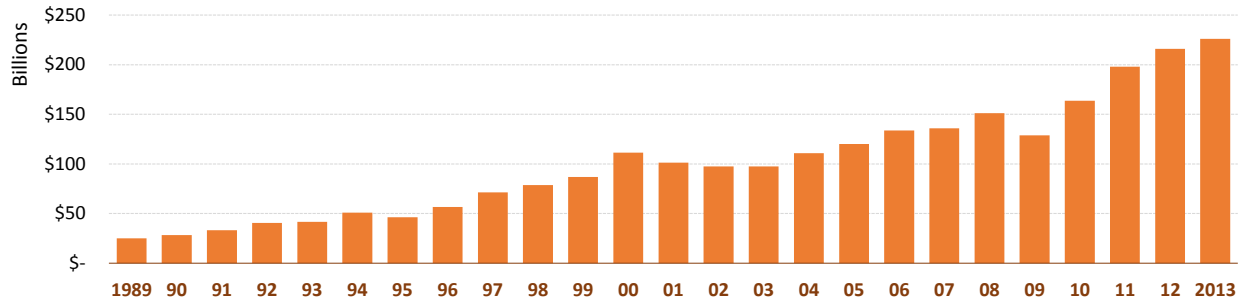


Figure 5: U.S. Merchandise Exports to México from 1989 to 2013

The period between 1989 and 2013 also saw México rise to displace Japan as the second largest merchandise export market for the United States, and it is even ahead of fast-growing industrial powerhouse China as a market for U.S. goods.

1989		2013	
Canada	\$ 78,266,157,013	Canada	\$ 300,244,595,002
Japan	\$ 44,583,917,074	México	\$ 226,152,926,983
México	\$ 24,968,823,301	China	\$ 122,016,318,111
United Kingdom	\$ 20,866,094,784	Japan	\$ 65,144,805,328
Germany	\$ 16,882,873,993	Germany	\$ 47,442,248,808
South Korea	\$ 13,478,029,199	United Kingdom	\$ 47,355,407,523
France	\$ 11,585,031,932	Brazil	\$ 44,115,969,370
Netherlands	\$ 11,392,764,959	Netherlands	\$ 42,654,339,545
Taiwan	\$ 11,322,931,377	Hong Kong	\$ 42,450,374,323
Belgium	\$ 8,514,218,704	South Korea	\$ 41,555,044,347

Table 1: Top Ten Markets for U.S. Merchandise Exports

The top five export markets for U.S. firms in 2013 included computer and electronic products (\$39 billion), transportation equipment (\$30 billion), chemicals (\$24 billion), heavy machinery (\$20 billion) and hydrocarbons (\$19 billion).

3. Project Profiles by Sector

There are many infrastructure projects ongoing or in planning all across México. The projects profiled in detail in this section were selected based on a combination of features, primary among them the potential for significant U.S. exports of goods and services, but also considering readiness and scale.

3.1 Transportation

The Secretaría de Comunicaciones y Transportes (SCT) is México's federal agency responsible for the country's transportation and communication systems. The SCT's mission is to develop and advance policies and programs in the transportation and communication sectors that contribute to the sustainable economic growth and social development needs of México. The SCT achieves this mission through area-specific administrative bodies. These administrative bodies are responsible for a given mode or group of modes of transportation, generally, and transportation statistics, information, and planning, specifically. These SCT units are covered in more detail in the background sections for each specific transportation mode.

Under the new administration the SCT has made it their priority to provide transport infrastructure that makes the movement of products, services, and people easier, in a fast, efficient, and low cost manner. Gerardo Ruiz Esparza was appointed by President Enrique Peña Nieto to serve as the Secretary of Transportation in 2012. The SCT was allocated \$107 billion (MXN) of México's 2014 budget, 50% higher than the previous year's allocation to the agency. SCT funding accounts for 12.3% of the total projects to be carried out in 2015.

The administration's \$590 billion (USD) 2014 – 2018 National Infrastructure Program (PNI in Spanish) encompasses a wide variety of projects aimed at the development of an enhanced national network of roads, ports, airports, railways and telecommunications services and infrastructure. Many of the investments identified in the PNI will be funded from an array of sources including federal resources from the Fondo Nacional de Infraestructura (FONADIN, México's National Infrastructure Fund), the Banco Nacional de Obras y Servicios Públicos (BANOBRAS, the National Works and Public Services Bank), state and municipal sources, user fees, and Public Private Partnerships (PPPs). Multilateral institutions including the World Bank Group, the North American Development Bank (NADB), and the Inter-American Development Bank (IADB) continue to be active partners supporting development of transportation infrastructure in México through a range of financing instruments and technical assistance.

3.1.1 Roads and Highways

Sector Background

México's road and highway network measures 377,659 kilometers. It is classified into four parts: the federal network of 49,652 kilometers; the state highway feeders of 83,981 kilometers; the rural road

network of 169,430 kilometers, and improved connectors of 74,596 kilometers. Within this, the strategic trunk network is composed of fourteen corridors that provide connectivity between the Atlantic and Pacific coasts and the northern and southern borders of the country. A fifteenth strategic corridor is among the planned investments in the sector by 2018. This will connect Salina Cruz and Tepic along the Pacific Coast.

Of the federal network 40,752 kilometers are freeways and 8,900 kilometers are tolled. Of the toll roads 4,963 kilometers are operated by private concessionaires and the remaining 3,947 kilometers are managed by the Federal Roads and Bridges Agency (CAPUFE by its Spanish acronym).



Figure 6: México's Strategic Trunk Road Network

México's road network is the primary means of national transport by volume of both passengers (98%) and freight (56%) and is a key focus of continuing large-scale investment as part of the PNI. It is important to note that while investment continues apace in roads, the policy focus in transportation has shifted to more aggressively support multi-modalism. New investments in ports, freight rail, intercity passenger rail, and urban mass transit, described in their respective sections of this report, symbolize this shift in transportation planning and spending. This is driven by strategic efforts of the government to improve energy efficiency and reduce the impacts of intensive road transportation including rising infrastructure maintenance expenditures and, especially in urban areas, severe air pollution and congestion. Traffic congestion where major roads pass through urban centers is a particular challenge.

The current Sectoral Program for Communications and Transportation sets a variety of qualitative and quantitative objectives to be achieved for each mode by 2018. For roads and highways the country seeks to:

1. Reduce logistics costs by completing and consolidating the trunk corridor network, constructing bypasses around urban centers, improving connections to logistics hubs such as ports and airports, and by applying innovative financing tools to leverage federal investment in the sector.
2. Improve the safety of roads by improving the state of repair of the network and implementing intelligent transportation systems (ITS).
3. Stimulate regional development through improvements to regional and rural roads, utilize rural labor on these works through a structured employment program, and modernize the interstate highway system.

Major quantified objectives for the roads and highways sector include reducing by ten percent the annual number of accidents per million vehicle-kilometers, shifting the national share of ton-kilometers of freight transported by rail from 25.4% to 27.3% (by diverting freight to rail from roads), and diverting 167 million-passenger-kilometers per month away from roads and onto new intercity passenger rail services.

To accomplish these goals the government set out in the PNI a total investment target of more than \$30.2 billion dollars to be spent across 153 separate road and highway projects. Two of these “projects” are actually nationwide programs, one for \$7.8 billion to perform general maintenance across the roads network, and a \$5.4 billion program to develop and improve rural roads. Remaining projects range from mega-projects of \$800 million to local projects of only a few million each. 54 of these projects are undertakings exceeding \$100 million and 76 are Presidential Compromises.

Projects

Ten of the signature road and highway projects within the PNI are identified below:

1. CG-040: Construction of the Elevated Route over the México – Veracruz Highway (\$801 million)
2. CG-234: First Stage of the Modernization of the Highway from Palenque to San Cristobal de las Casas (\$762 million)
3. CG-211: Complete the Highway between Oaxaca and the Isthmus (\$700 million)
4. CG-023: Construction of the Highway from Tuxpan to Tampico (\$615 million)
5. Construction of the Highway between Atizapán and Atlacomulco (\$447 million)
6. Construction of the Guadalajara Bypass (\$436 million)
7. CG-060: Construction of the First Stage of the Beltway of Orizaba and Córdoba (\$424 million)
8. Construction of the Elevated Highway from Indios Verdes – Santa Clara (\$423 million)
9. CG-213: Completion of the Highway from Oaxaca to Puerto Escondido (\$345 million)
10. CG-022: Construction of the First Stage of the Highway from Cardel to Pozo Rico (\$310 million)

U.S. Export Potential

México has a sophisticated domestic industry for heavy highway materials supply and for architect/engineering and maintenance and construction contracting services. This is supplemented by a strong presence of European firms, notably Spanish companies, in professional services and provision of sophisticated systems and equipment. They also are frequent operators of infrastructure. Accordingly competition is fierce in this sector. Though U.S. firms are present, typically in association with local firms, they are not prominent in direct roles in highway project contracting or as concessionaires. There is a robust export market for U.S. firms as suppliers of heavy capital equipment for road construction and maintenance. México has specifically identified greater implementation of intelligent transportation systems as a strategic goal for the sector. U.S. firms are welcome, but they face strong competition in this sector, particularly from European suppliers. Mexican buyers have expressed a preference for provision of ITS systems from larger suppliers who can provide broad integrated systems with strong back-end analytics capabilities.

Project Contacts

For more information on project opportunities in the roads and highways sector you may reach out to:

Project Sponsor	U.S. Trade & Development Agency	U.S. Commercial Service México
Carlos Bussey Sarmiento Director General of Planning and Project Development SCT General Directorate of Roads Tel. +52 (55) 5482-4343 carlos.bussey@sct.gob.mx	Mr. Keith Eischeid Country Manager for México and Central America Tel. +1-703-875-4357 KEischeid@ustda.gov	Ms. Rebecca Torres Commercial Officer Tel. +52 (55) 5080-2191 Rebecca.Torres@trade.gov Mr. Adrián Orta Commercial Specialist, Transportation Tel. +52 (55) 5080-2000 ext. 5220 Adrian.Orta@trade.gov

3.1.2 Freight and Intercity Passenger Railways

Sector Background

The development of the national railway system of México began in the early 1800's much as in the United States, as a number of companies competed to develop different parts of the new system under government concessions. By 1909 the majority of the railway system was consolidated under a single government-owned company, Ferrocarriles Nacionales Mexicanos (FNM), which carried 80 percent of the rail traffic and operated on 70 percent of the tracks, providing both freight and passenger services. The scale of the system increased substantially over the following decades, providing service to most parts of the country. By the 1980's the railroad suffered from major problems in competitiveness and efficiency and had become heavily indebted. Between 1997 and 1999 the government completely restructured the railroad system and dismantled FNM. This process included shutting down nearly all intercity passenger rail services and transferring operation of the network to private or public entities in vertically integrated multi-decade concessions. As of today nine companies hold operating concessions:

Ferrocarril Mexicano and Ferrosur, combined represent the largest group operating freight concessions in México. Controlling 8,600 kilometers of main lines, this group moved over 52 billion ton-kilometers of freight in 2012.

Kansas City Southern de México, the second largest freight concessionaire, operating 4,283 kilometers of main lines, KCSM transported 25.2 billion ton-kilometers of freight in 2012.

Ferrocarril y Terminal del Valle de México is a concession commonly owned between the major freight operators providing joint terminal and switching services across 297 kilometers of lines in the Valley of México.

Línea Coahuila-Durango is a regional freight concessionaire operating over 974 kilometers of main line in the north central region of México.

The remaining passenger service obligations on the network have focused on providing public rail transport to isolated communities that have no other mode of public transportation available to them, promoting the development of passenger rail tourist services in regions of high market potential, and the operation of a commuter rail corridor service in México City.

Ferrocarril del Istmo de Tehuantepec, known as FIT, is a parastatal entity that operates a short line freight corridor in southern México running north from the coast at Salina Cruz.

Compañía de Ferrocarriles de Chiapas-Mayab, operated by government railroad FIT, is responsible for providing freight services on a 1,550 kilometer network in southern México.

Administradora de la Vía Corta Tijuana – Tecate (ADMICARGA), a parastatal short-line freight service and tourist train operator in Baja California.

Ferrocarriles Suburbanos, S.A.P.I. de C.V. provides commuter rail service from the suburban area of Cuatitlan south to Buenavista near the center of México City.

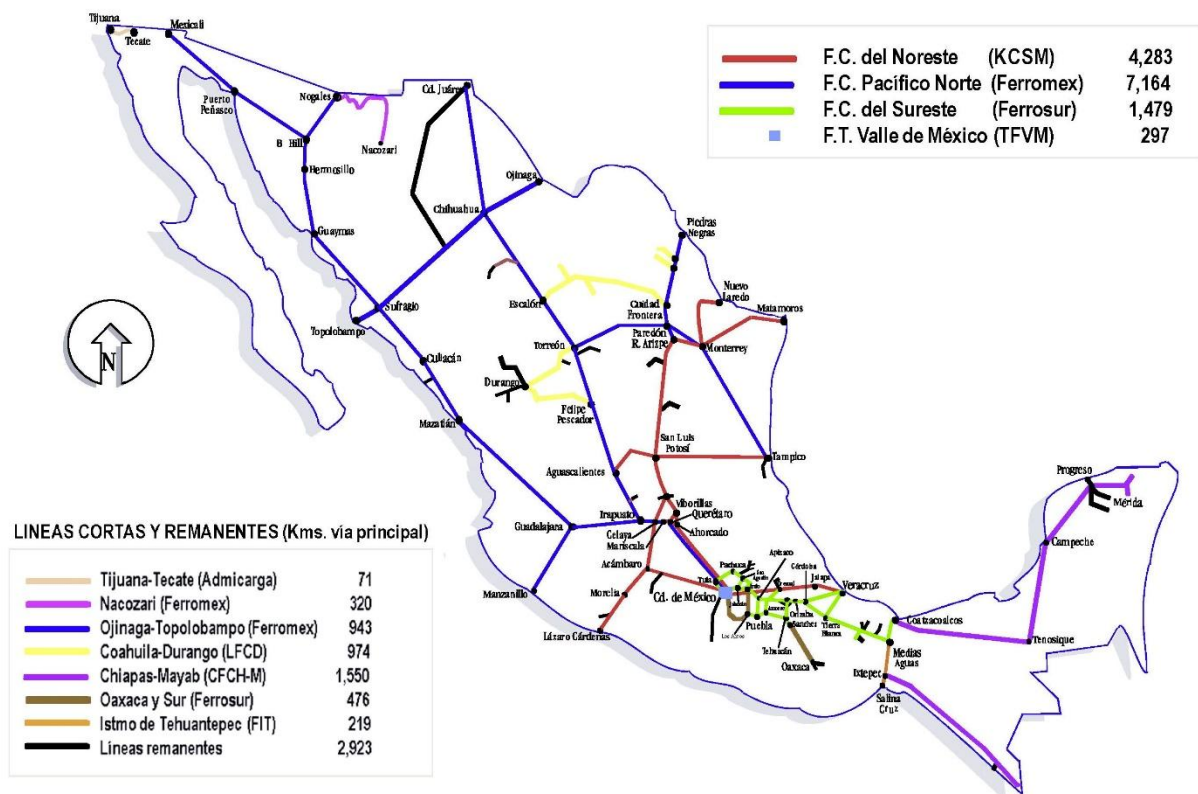


Figure 7: México's National Railway Network

The restructuring and privatization has achieved many of México's transportation policy objectives in the sector and established a base for future development. Both railroad tons transported and ton-kilometers transported have risen steadily. Rail's modal share of freight traffic has risen substantially, from 12.5% of tons and 19% of ton-kilometers transported in 1995 to 18% and 25%, respectively. The private concessionaires have made steady and significant investments in the rail networks they operate, increasing speeds, weight capacity and clearances on many routes. Today México's railway network consists of 26,727 kilometers of track reaching throughout the country. A total of 11.6 million tons and 79.4 million ton-kilometers of freight, and 911.6 million passenger-kilometers were transported on the network in 2012. By volume freight rail traffic was composed of industrial products (48%), agricultural products (24%), minerals (14%) and petroleum and petroleum products (8%).

México's freight rail operations are the backbone of the \$1 billion per day trade partnership between the United States and México. Rail lines link manufacturers, suppliers and consumers on both sides of the border, supporting a robust bilateral trade. In 2012, foreign trade accounted for 45.5% of cargo handled on the Mexican railway network. It is an essential mode for transportation of heavier, low value cargoes. As freight rail operating performance and efficiency has steadily increased, railroads are capturing a greater share of high-value and time sensitive cargoes that traditionally moved by truck, such as containerized freight.

The modern railway system of México is overseen by the Secretariat of Communications and Transportation General Directorate of Rail and Multimodal Transportation. The Directorate serves to oversee the economic functioning, operational safety and the physical development of the Mexican railway network. As such it is an operating and economic regulator, as well having responsibility for carrying out strategic national development

and planning responsibilities. This includes procurement of goods and services for, and management of, major federally supported railway infrastructure projects. The private concessionaires are responsible for management of operations on the lines they control, and for performing maintenance and investments in the track, structure, systems and rolling stock to maintain and improve the operations of their portions of the system.

The new presidential administration strongly believes that México's productivity and global competitiveness depend upon further investment and expansion of the railroad system, including physical expansion of the network with new freight and passenger lines and services, increased multimodal connectivity and efficiency, such as between railroads and ports, and, investments to increase the capacity and efficiency of the existing tracks. Strategic national policy goals for the rail sector include reducing logistics costs for freight customers, improving the safety and efficiency of operations generally, increasing freight security, and supporting sustainable urban development and improving Mexicans' quality of life by providing new passenger rail services. Specific quantified sector goals have been set by the government. By 2018 the national score in the World Economic Forum's infrastructure and logistics competitiveness index will be increased by 0.01. Transportation modal share will be substantially increased by raising freight tons transported by rail from 25.4% to 27.3% of the total, and increasing average, monthly intercity rail passenger ridership from 4.9 million to 162 million passenger-kilometers.

To accomplish these goals the **National Infrastructure Program** has set an investment objective of more than \$10 billion dollars to be accomplished through execution of 13 specific major rail projects and investment programs by 2018. This funding is expected to come from a mix of public and private sources, the balance varying significantly depending upon the project. The 13 projects include constructing three brand-new intercity passenger train services, performing a program of investments in improved signaling and communications components, particularly at-grade crossings, across the national rail network, completing a program to recapitalize large sections of the Chiapas-Mayab rail network, and execution of seven strategic projects, including bypasses, tunnels and connectors that will improve freight network efficiency and remove areas of congestion, particularly at intermodal conflict points in densely populated urban areas.

The following projects are those that are underway or nearing completion at the time of this writing:

- **Construction of the Celaya Freight Bypass (CG-195):** Budgeted at \$426 million in total investment, this project is underway in the state of Guanajuato and is nearing completion.
- **Urban Rail Signaling Investment Package:** Budgeted at \$152 million in total investment, this project is national in scope and focuses on at-grade crossing safety improvements. It was awarded but has not begun execution due to procurement disputes.
- **Freight Rail Bypass and Tunnel at Manzanillo (CG-073):** Budgeted at \$102 million, this project improves the flow of freight rail connectivity to the port through construction of a 900-meter long tunnel and reduces multimodal conflicts. It is part of a larger initiative in the port area that includes a bypass, new rail connections and a rail yard expansion.
- **Matamoros Freight Rail Bypass and Border Crossing:** Budgeted at \$61 million in total investment, this project is constructing a freight rail bypass and a new border crossing in the city of Matamoros, Tamaulipas state.
- **Relocation and Multimodal Expansion of the Durango Freight Rail Terminal:** This project is underway and budgeted for a total investment of \$80 million dollars.

The following projects are yet to be initiated but are planned for completion by 2018. Insufficient planning documentation was presently available to prepare comprehensive project profiles:


- **Construction of the Freight Rail Bypass at Coatzacoalcas (CG-159):** Budgeted at \$190 million in total investment, this project will take place in the state of Veracruz. Planning studies are underway by SCT.
- **Construction of the Connection between Aguascalientes and Guadalajara (CG-029):** Budgeted at \$884 million in total investment, this project will take place in the states of Aguascalientes and Jalisco. Planning studies are underway by SCT.
- **Recapitalization of the Chiapas-Mayab Rail Network:** Budgeted at \$462 million in total investment, this program will repair and improve the infrastructure of this network serving the southern states of Campeche, Chiapas, Veracruz and Yucatán. Works will include rehabilitation of 1,046 kilometers of rail lines, including bridges and drainage systems, along the corridors "FA" (Chapo, Veracruz – Mérida, Yucatán), "FL" (Campeche - Lerma, Campeche), "FD" (Mérida - San Ignacio, Yucatán), "FX" (Dzitas a Valladolid, en Yucatán) "K" (Chiapas Coast).
- **Rail-Urban Coexistence Improvements in the City of Juarez:** With a planned total investment of \$69 million, this project in this important border city in the state of Chihuahua will invest to reduce multimodal conflicts and impacts of train traffic on the city over 19 kilometers of lines.
- **Rail-Urban Coexistence Improvements in the City of Juan Palomar:** With a total investment of \$4 million planned, this project in this important border city in the state of Chihuahua will invest to reduce multimodal conflicts and impacts of train traffic on the city over 19 kilometers of lines.

The following projects were selected for detailed profiling on the following pages. They have either yet to begin or have significant phases of works yet to be procured, detailed planning documentation was available, and they are expected to have significant future potential for U.S. exporters. The investment programs of the two largest freight rail concessionaires have been included as a single profile.

- **Construction of the High-Speed Passenger Rail System between Querétaro and México City (CG-094)**
- **Capital investments by Freight Railroad Concessionaires Ferromex and Kansas City Southern de México**
- **Construction of the Intercity Passenger Rail System between Toluca and the Valle de México (CG-263)**
- **Construction of the Trans-Peninsular Passenger Train (CG-243)**

Projects

High-Speed Passenger Train from Querétaro to México City

	Project Type	Intercity Passenger Rail
	State(s):	Distrito Federal, México, Hidalgo, Querétaro
	Projected Investment:	USD \$3.3 Billion
	Timeline:	2014 – 2017
	Project Sponsor(s):	SCT

Project Background and Scope

This new rapid intercity passenger rail system will connect the capital of México City and the city of Querétaro. The service will run from Terminal Buenavista in México City, continuing to stations at Cuatitlán, Huehuetoca, Tula, San Juan del Río, to Terminal Querétaro. The service corridor is 209.2 route kilometers of double track, including 15.6 kilometers of elevated tracks crossing 37 viaducts, and 15 tunnels totaling over 11,000 meters. Of this, 124.7 route-kilometers will be new construction.

With a planned top speed of 300 kilometers per hour, a trip between Querétaro and México City will take approximately one hour. The train is projected to make 36 runs and transport over 23,000 users daily. This high-speed train will be the first of a series of passenger rail projects carried out over the next six years, including the México-Toluca passenger train which is also profiled in this Guide. This project is part of a government commitment to build infrastructure for passenger mobility that is modern, comprehensive, flexible, secure, sustainable, and inclusive.



Figure 8: Planned Route of the High-Speed Passenger Train from Querétaro to México City

The passenger terminal in Queretaro will be a completely new greenfield facility covering 14,000 square meters, including two 210 meter passenger platforms, road connections, parking lots, bus and taxi areas, drop-off lanes.

The project includes construction of three significant operating and maintenance facilities. Terminal facilities (Cabecera Buenavista and Cabecera Querétaro) will each cover over 5,500 square meters and each include 660 meters of parking tracks, a 220 meter inspection track and administrative facilities. The main workshop will be a large facility covering more than 25,000 square meters, including a rail yard with four 240 meter tracks for heavy maintenance, four 240 meter of tracks for light and preventive maintenance, one 230 meter track for train washing, two 120 meter of tracks for maintenance-of-way equipment parking, a supplies warehouse, a workshop including wheel truing equipment and administrative buildings.

This service will be electrified, utilizing 25kV 60Hz AC power provided by overhead catenary. Portions of the line have existing traction power systems, accordingly 1 x 25 kV will be used for the first 26.5 kilometers (presently utilized by the commuter service running from Buenavista to Cuautitlan) and 2 x 25 kV for the remainder. One new traction power substation is expected to be constructed as part of this project.

The system will be fully signalized, based on ERTMS level two standards for train protection, incorporating automatic stop technology and wayside fault detection systems. The trains will operate in a centralized traffic control environment with a new control center based in the Buenavista Station. The investments will include incorporate closed-circuit video surveillance and other security measures. A centralized communication system based on GSM-R technologies will be installed to tie together all aspects of operation.

The passenger rolling stock fleet is expected to begin service with a fleet of 12 trains rising eventually to 20. Rolling stock will be procured as part of the second of three procurement phases. The basic parameters for procurement will be for high-speed electrified trainsets of 200 meters in length, capable of exceeding 250 kilometers per hour.

Other works on include: site preparation, structures, cross drainage, longitudinal drainage, replacement of tracks, replacement of easements, superstructures, signaling and communications, and electrification.

Project Status and Implementation Timeline

The environmental analysis portion of the review has been completed and construction is planned to begin in 2014. The infrastructure portion of the project is expected to take 46 months. An additional 6 months will be required to commission the new rolling stock and systems, with the first passenger revenue service planned by the end of 2017.

Project Cost, Financing and Procurement

Estimated cost of the project is USD \$3.3 billion. Funding will be provided federally through the SCT.

2014	2015	2016	2017
\$268,681,524	\$426,657,721	\$971,873,833	\$1,655,242,873
Total: USD \$3,322,455,950			

Table 2: Tren Rápido Cd. México - Querétaro Projected Investment by Year

Category	Amount
Infrastructure	\$2,144,572,618
Track	\$348,127,082
Electrification	\$175,130,948
Security and Telecommunications	\$267,995,334
Mobile Material	\$355,446,443
Right of Way	\$31,183,525
TOTAL	USD \$3,322,455,950

Table 3: Tren Rápido Cd. México - Querétaro Projected Investment by Type

The project will be procured in three separate phases: 1.) construction of civil works, track and structure, 2.) rolling stock, signaling, and communications, and 3.) a long-term concession for system operations and maintenance. Procurements are published through the Mexican government's web portal, Compranet.


U.S. Export Opportunities

The potential export opportunities for U.S. companies are numerous. Large quantities of track and structure components will be purchased for this system including high-quality steel rail, rail fastening systems, signaling and communication systems, and passenger information and ticketing systems. U.S. firms are competitive for some of these materials, particularly when the operation must meet high performance standards. U.S. firms will face strong competition from both Mexican and European firms, particularly for materials associated with the more generic civil and geotechnical works. There will also be acquisition of maintenance equipment for the track and structures as well as rolling stock, areas where there are strong U.S. providers. Electrified passenger rolling stock is not a traditional strength of the U.S. rail supply industry, however there are opportunities for foreign-owned but U.S. based manufacturing facilities to potentially perform a role. The specification of European standards for signaling and communications systems is a barrier for these systems. Indirect opportunities should still exist for firms not part of winning consortiums to provide materials and services as external suppliers. The concession to operate and maintain the system is another opportunity. The Mexican government would welcome U.S. firms' participation in operating concessions, by investors, operators, or a combination.

Project Contacts

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Interurban Passenger Train from Toluca to México City

	Project Type	Intercity Passenger Rail
	State(s):	Distrito Federal, Estado de México
	Projected Investment:	USD \$2.9 billion
	Timeline:	2014 – 2017
	Project Sponsor(s):	SCT and the state of México

Project Background and Scope

The project to create a new interurban passenger train system from Toluca to México City will construct a new 57.7 kilometer high-speed rail line linking the cities of Toluca and México City. Service will be provided to six stations: Observatorio in México City; Santa Fe, Lerma, Metepec (near the Toluca International Airport), the Toluca Bus Station, and Zinacantepec. The train will carry an estimated 300,000 passengers daily and travel at a top speed of 160 kilometers-per-hour, making the trip from Toluca to México City in 39 minutes.

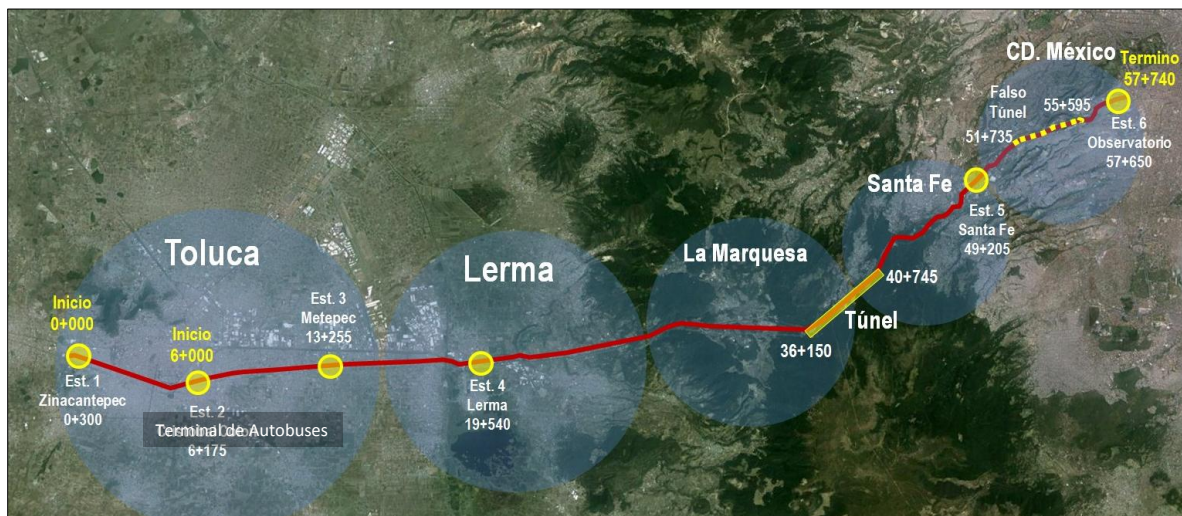


Figure 9: Interurban Passenger Train from Toluca to México City Map

The Toluca to México City passenger train, also known as "tren interurbano," includes the construction of six stations, including the two main terminals. The first terminal will be built in the town of Zinacantepec, following the alignment of Torres Avenue. The second terminal will be constructed at Observatorio, on the western side of México City, named for the adjacent metro and the bus terminal. The Observatorio terminus will provide robust multimodal connectivity for the many thousands of people traveling between the Toluca Valley and México City. This project is part of a government commitment to build infrastructure for passenger mobility that is modern, comprehensive, flexible, secure, and sustainable. The new service will reduce traffic congestion that presently occurs between these two urban areas, generating a 90-minute savings in travel time per passenger, reducing deaths and injuries due to automobile accidents, reducing carbon dioxide emissions by 34,000 tons, and creating

substantial employment generation in the construction phase (17,000 direct and 35,000 indirect) as well as several hundred skilled long term operating jobs.

Project Status and Implementation Timeline

The technical studies on the project were completed in November of 2013. The project has been scheduled to tender in stages beginning in June of 2014 with revenue service expected to begin in 2017.

Project Cost, Financing and Procurement

The estimated cost of the project is USD \$2.94 billion. Funding will be provided federally by the SCT. The project will be procured in three separate phases: 1) construction of civil works, track and structure, 2) rolling stock, signaling, and communications, and 3) a long-term concession for system operations and maintenance. Procurements are published through the Mexican government's web portal, Compranet. The procurement for the construction of the 36.15 kilometer segment "Zinacatepec – Túnel" was released on February 28, 2014 and bids were due on May 5, 2014. The contract will be awarded on June 10, 2014. The procurement for the construction of the tunnel was released on April 15, 2014 and bids are due on June 6, 2014.


U.S. Export Opportunities

The potential export opportunities for U.S. companies are numerous. Large quantities of track and structure components will be purchased for this system including high-quality steel rail, rail fastening systems, signaling and communication systems, and passenger information and ticketing systems. U.S. firms are competitive for these materials, particularly when the operation must meet high performance standards. U.S. firms will face strong competition from both Mexican and European firms in this area, more so for materials associated with the more generic civil and geotechnical works. There will also be acquisition of maintenance equipment for the track and structures as well as rolling stock, areas where there are strong U.S. providers. Opportunities for Should U.S. firms not be directly participating in winning consortiums for different phases of procurement, indirect opportunities should still exist for providing major contractors with materials and services to support the works and development of the new system. The concession to operate and maintain the system is another area where U.S. capability exists. The Mexican government would welcome U.S. firms' participation in operating concessions, by investors, operators, or a combination of the two.

Project Contacts

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The Trans-Peninsular Train: Yucatán-Quintana Roo

	Project Type	Intercity Passenger and Freight Rail
	State(s):	Campeche, Yucatan, Quintana Roo
	Projected Investment:	USD \$1.4 billion
	Timeline:	2014 – 2017
	Project Sponsor(s):	SCT

Project Background and Scope

This new rail service is proposed to connect the cities of Mérida in Yucatán state with Punta Venado in Quintana Roo state. The new service would travel at an average speed of up to 160 kilometers-per-hour, and transport passengers between the terminals in less than three hours.



Figure 7: Proposed Alignment of the Tren Transpeninsular Phases 1 and 2

This new service is proposed to be implemented in two phases. In phase 1 of the project seven passenger stations will be established at Mérida, Izamal, Chichén Itzá, Valladolid, Cobá, Punta Venado “B” and Punta Venado “A”. The twin terminals in Punta Venado will be established to serve intermodal transfers from the road service to Cancun and the cruise terminal, respectively. In the second phase of the project four stations will be added at Tixkokob, Cacalchén, Tunkás and Chichén Itzá Airport. Station designs are proposed with careful consideration to include concepts based upon the indigenous and colonial architecture of the region. The project will involve reconstruction of 141 kilometers of existing freight rail lines and construction of 193.5 route-kilometers of brand new rail line. Within the City of Merida 4.19 kilometers of the line is proposed to be elevated to reduce intermodal conflicts. Numerous additional overpasses and viaducts are under evaluation for final design, to reduce at-grade conflicts, and to mitigate potential impacts on sensitive natural and historical sites along the alignment.

Terminal Mérida will include 6 parking tracks for the passenger trains, Chichén Itzá will have 14 and Punta Venado 10 parking tracks. Punta Venado will also include RIP tracks for light maintenance. This station's infrastructure will be constructed to enable future expansion of the alignment to Cancún.

A temporally separated freight rail service is planned for the new alignment. This nighttime service would link terminals in Umán and Valladolid with Merida with improved service, including for heavy fuel oil movements to the thermal power plant at Valladolid. In Punta Venado a logistics distribution center will be established to provide freight rail service to the Riviera Maya region. Provision of this new, higher quality freight rail link is expected to incentivize substantial future rail logistics development, such as a proposed PEMEX fuels terminal, general, bulk and containerized rail cargo terminals, and associated private development in the form of warehouses and manufacturing.

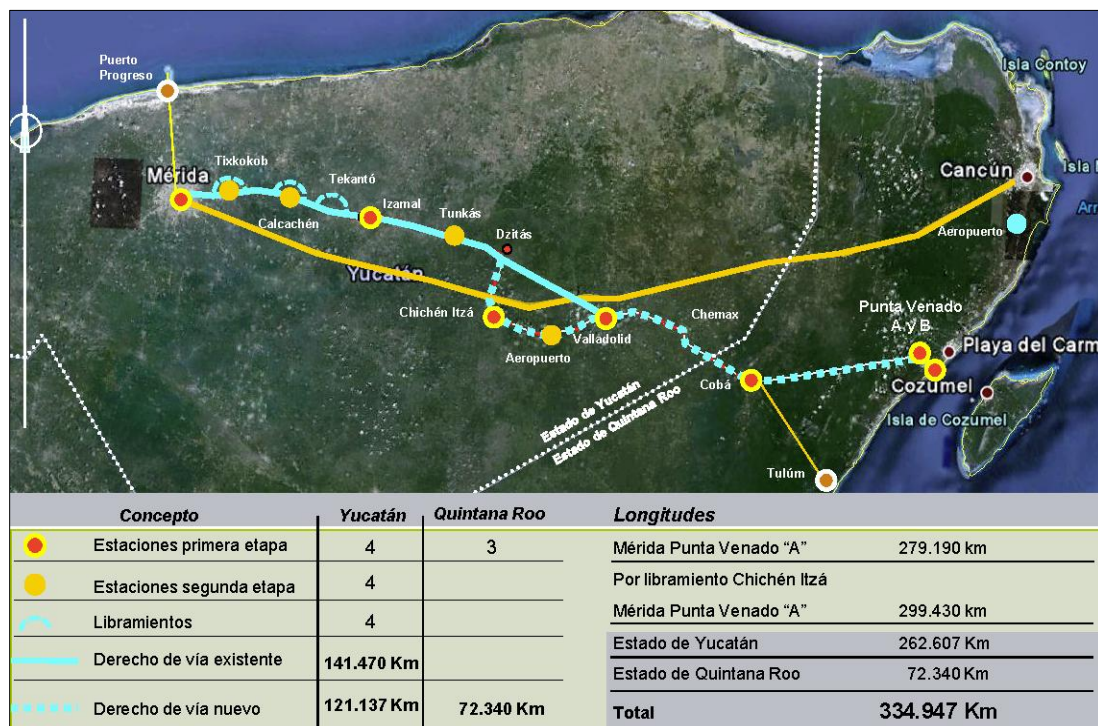


Figure 8: Proposed New and Reconstructed Rail Lines for the Tren Transpeninsular

Workshops for heavy and routine maintenance will be established at Valladolid, roughly in the center of the alignment. This 46 acre facility will include: storage and maintenance tracks; a workshop including wheel profiling equipment, work pits and a painting cabin; a wash rack, fuel station, a rolling stock parts warehouse, and tracks and facilities for maintenance-of-way equipment and supplies. The train control and dispatching center will also be housed at this facility. Administrative structures will provide space for security personnel, training, cafeteria, changing rooms and sanitary facilities.

The system will include a basic level of signalization, including at-grade crossing protection.

The motive power for the new passenger service is expected to be provided by high-performance diesel powered passenger trainsets. Trains are expected to be a maximum of 250 meters with capacity for an average

load of 820 passengers. At some point in the future the passenger service could be upgraded to operate with electric traction power however such an investment is not within the present scope of this proposed project.

Project Status and Implementation Timeline

The project is currently in the feasibility study phase and is undergoing due diligence on the final alignment, ridership and business plan and potential for environmental impacts.

Project Cost, Financing and Procurement

This project is estimated to require USD \$1.4 billion in total investment to complete.



Figure 9: Transpeninsular Station Concept


U.S. Export Opportunities

The potential export opportunities for U.S. companies are numerous. Large quantities of track and structure components will be purchased for this system including high-quality steel rail, rail fastening systems, signaling and communication systems, and passenger information and ticketing systems. U.S. firms are competitive for some of the basic materials, particularly when the operation must meet high performance standards. U.S. firms will face strong competition from both Mexican and European firms, particularly for materials associated with the more generic civil and geotechnical works. There will also be acquisition of maintenance equipment for the track and structures, as well as rolling stock, areas where there are strong U.S. providers. The choice of diesel traction power for the service potentially opens the provision of rolling stock as an opportunity for U.S. firms, which provide world class diesel motive power solutions. Indirect opportunities will exist for firms not part of winning consortiums to provide materials and services as external suppliers. The concession to operate and maintain the system is another opportunity. The Mexican government would welcome U.S. firms' participation in operating concessions, by investors, operators, or a combination.

Project Contacts

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Private Freight Railroad Concessionaire Investments

	Project Type	Freight Railroad
	State(s):	Multiple
	Projected Investment:	USD \$649 million
	Timeline:	2014
	Project Sponsor(s):	Ferromex/Ferrosur and Kansas City Southern de México

Projects Background and Scope

Beginning in 1997 the Mexican government engaged in a major restructuring of the railway sector that privatized operations through vertically integrated long term concessions. The two largest concessionaires, Kansas City Southern de México and Ferromex/Ferrosur, including commonly-held terminal company Ferrovale, today are responsible for management of over 63% of the railroad network infrastructure. They maintain 95% of the national locomotive fleet. Their operations account for 95% of freight rail tons transported, and 98% of ton-kilometers transported.

Since the concessions began the companies have made significant progress in increasing network capacity through steady major investments with their private funds. Freight volumes transported have risen by 199% and at the same time the accident rate has dropped by 90%. Large parts of the network have been recapitalized with important gains in speed, weight capacity and clearances. In 2013 KCSM spent \$238 million and Ferromex \$422 million on capital, for a total of \$660 million in investments improving the Mexican railway system. This included a range of investments such as new tracks (double tracking), sidings and terminals; replacement of rail, ballast and cross-ties across the network; and investment in maintenance-of-way equipment, locomotives and railcars.

In 2014 these two concessionaires will invest another combined \$649 million in a range of capital projects.

Kansas City Southern de México 2014 Investments

Out of KCSM's total amount of \$143 million to be spent in 2014, the largest single investment will be approximately \$53 million for the rehabilitation of the Monterrey to Nuevo Laredo corridor, including installation of all new cross-ties and rail. Defined KCSM projects and categories of spending are as follows.

Infrastructure (\$84 million)

- Capacity improvements at the border yard at Sánchez.
- New maintenance yard at San Luis Potosí.
- Extension of 3 sidings along the México – Nuevo Laredo mainline.
- Expansion of the support yard in Saltillo, Coahuila.
- Installation of centralized traffic control (CTC) between B. López and Escobedo.
- Second phase of the expansion of the Vanegas Yard.
- Completion of double tracking of the corridor between Sánchez and Nuevo Laredo.

Terminals

- Infrastructure improvements to the terminals at Toluca, Celaya y SLP.
- Expansion of the cargo siding at SLP.
- Purchase of a straddle crane for the terminal at Toluca.
- Installation of a wheel truing facility at Toluca.

Systems

- Business solutions, data centers, processing and storage capacity.
- Security systems.
- Telecommunications.
- Information systems to manage logistics and Transportation operations.

Rolling Stock (\$16 million)

- Completion of the warehouse at la Pila, San Luis Potosí.
- Replacement of control stands and air conditioning systems in locomotives.
- Installation of air conditioning systems at yard and intermodal terminal facilities.
- Installation of surveillance cameras in locomotives.

Ferromex/Ferrosur 2014 Investments

The \$506 million to be spent includes:

Track and Structure (\$195 million)

- Replacement of rail and crossties
- Investment in roadbed (\$32.2 million)
- Rehabilitation of crossings, sidings and yards (\$21 million)
- Bridge rehabilitation (\$12.6 million)
- Improvement of cuts and fills (\$7.9 million)

Capacity (\$123.4 million)

- Construction and reconfiguration of yards and terminals (\$84.4 million)
- Double tracking (\$17.8 million)
- Extension and rehabilitation of sidings (\$11.3 million)
- Equipment (\$9.9 million)

Rolling Stock and Equipment (\$59.9 million)

- Locomotive overhauls (\$23.7 million)
- Rehabilitation of workshops and storehouses (\$5.8 million)
- Purchase of new/rebuilding of old maintenance-of-way equipment (\$24.9 million)
- Purchase of new/rebuilding of old freight cars (\$5.4 million)

Signaling and Communications, Safety and Security (\$24.6 million)

- Wayside fault detection equipment (\$9.7 million)
- Signals (\$4.6 million)
- Security systems, lighting, CCTV and access control (\$7.8 million)
- Communications equipment (\$1.4 million)

- Air conditioning equipment (\$1 million)

Project Status and Implementation Timeline

These projects will occur throughout 2014.

Project Cost, Financing and Procurement

These projects will be financed from the internal capital funds of Kansas City Southern de México and Ferromex/Ferrosur. Procurement will occur through the established processes at the companies.

U.S. Export Opportunities

Investments by Ferromex/Ferrosur and KCSM in 2014 will create a wide range of opportunities for U.S. suppliers. Infrastructure components to be purchased will include high-quality rail, crossties, fastening systems, switches, at-grade crossing components, and signaling and communications systems. Information systems for operations and business process management will be purchased. A range of freight cars and track maintenance and construction equipment will be procured, and heavy overhauls of a number of U.S.-origin locomotives will create demand for parts and components.

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Technical Assistance for Analysis of the Specialty Freight Railcar Market in México

The U.S. Trade and Development Agency is funding a new technical assistance study to support the further development of México's freight rail sector.

The selected consultant will conduct an overall examination of the supply and demand for freight cars from the perspective of the Mexican railway system as a whole, considering cross border dynamics, with an emphasis on the needs of shippers, particularly smaller and medium-sized firms. The consultant will examine national, regional and seasonal market dynamics impacting provision of wagons, bottlenecks and constraints on the efficient movement of wagons, with specific analyses by wagon types and commodities transported. The potential evolution of the leasing and private fleet market will be examined. The markets for open-top and covered hopper cars, petroleum product tank cars, and new high-capacity boxcars, including refrigerated services, will be examined in depth. The study will evaluate institutional and operational improvements that will optimize wagon supply and utilization generally, as well as recommend specific investments in systems, services, infrastructure, terminal facilities, and new railcars necessary to meet projected growth of existing traffic and new opportunities.

Project Procurement and Implementation Timeline

This study will be let for bid by USTDA to a U.S. consulting firm through an open competitive bidding process. The execution of the study will be supervised by the host country sponsor, the Mexican Railway Association (Asociación Mexicana de Ferrocarriles or AMF). Founded in 2004 the AMF is the national trade association representing the passenger and freight railway operators in México. From award to completion the study is expected to take approximately 8 months.

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3.1.3 Ports

Sector Background

México has 117 ports and terminals across its 11,122 kilometers of coastline. Of these, 71 are concessioned through 25 Administraciones Portuarias Integrales (APIs). Of these APIs, 16 are managed by SCT, 2 are managed by the Fondo Nacional de Fomento al Turismo (FONATUR), 6 are state-operated and 1 is private. Four cargo ports are considered by the government to be strategic for México: Altamira and Veracruz on the east coast; and Manzanillo and Lázaro Cárdenas on the west coast. These four ports together account for 96% of container movements, 65% of bulk agricultural goods, 40% of bulk mineral movements and 38% of general cargo. In 2012 the Mexican port system transported 283 million tons of cargo and 67% was handled by ports managed under API concessions.

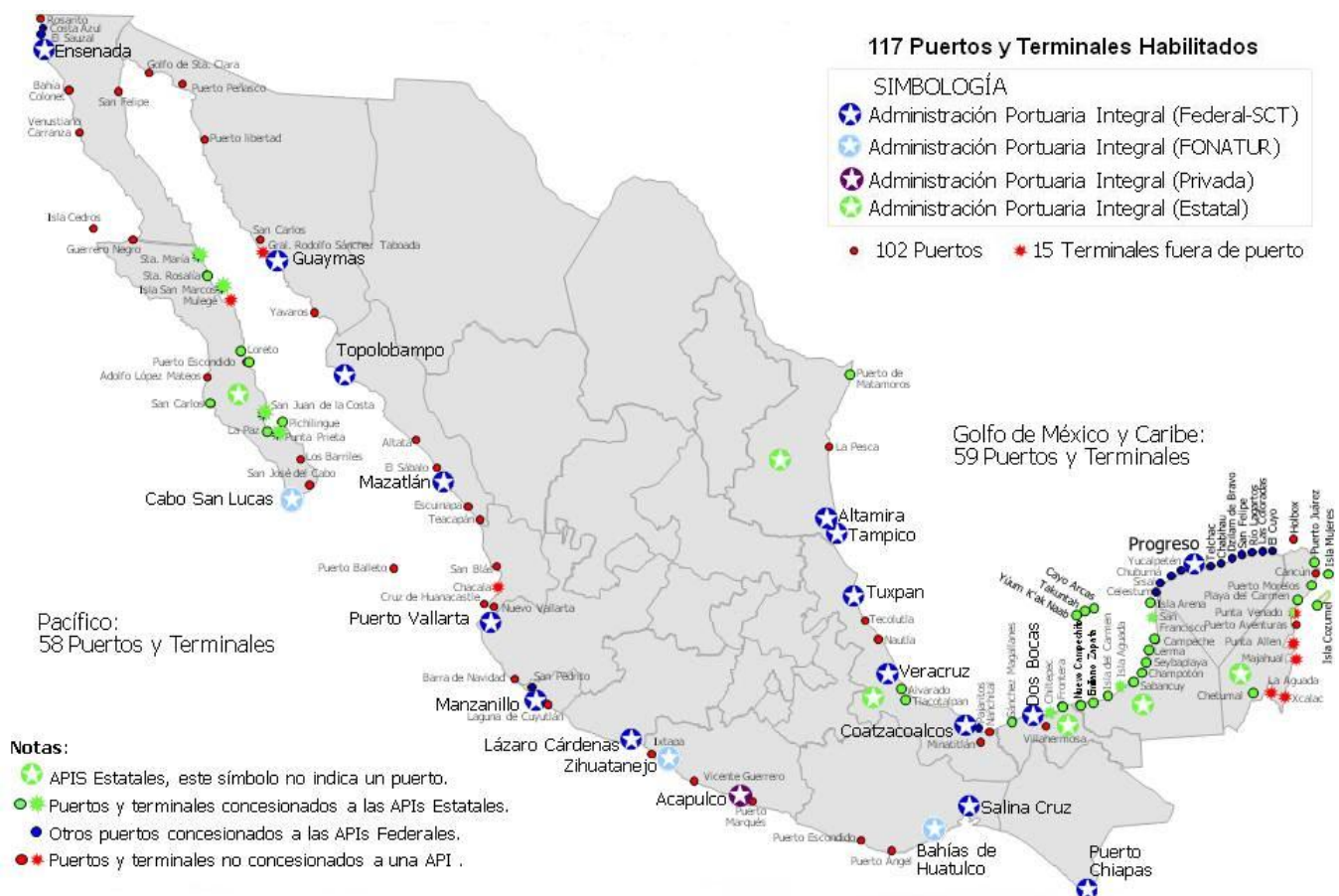


Figure 10: México's Port System

The following charts provide an illustration of the relative concentration of freight and passenger activity at a small number of México's ports. Cayo Arcas, the largest by volume, is a special case. It is a major terminal dedicated to petroleum, capable of exporting approximately one million barrels per day.

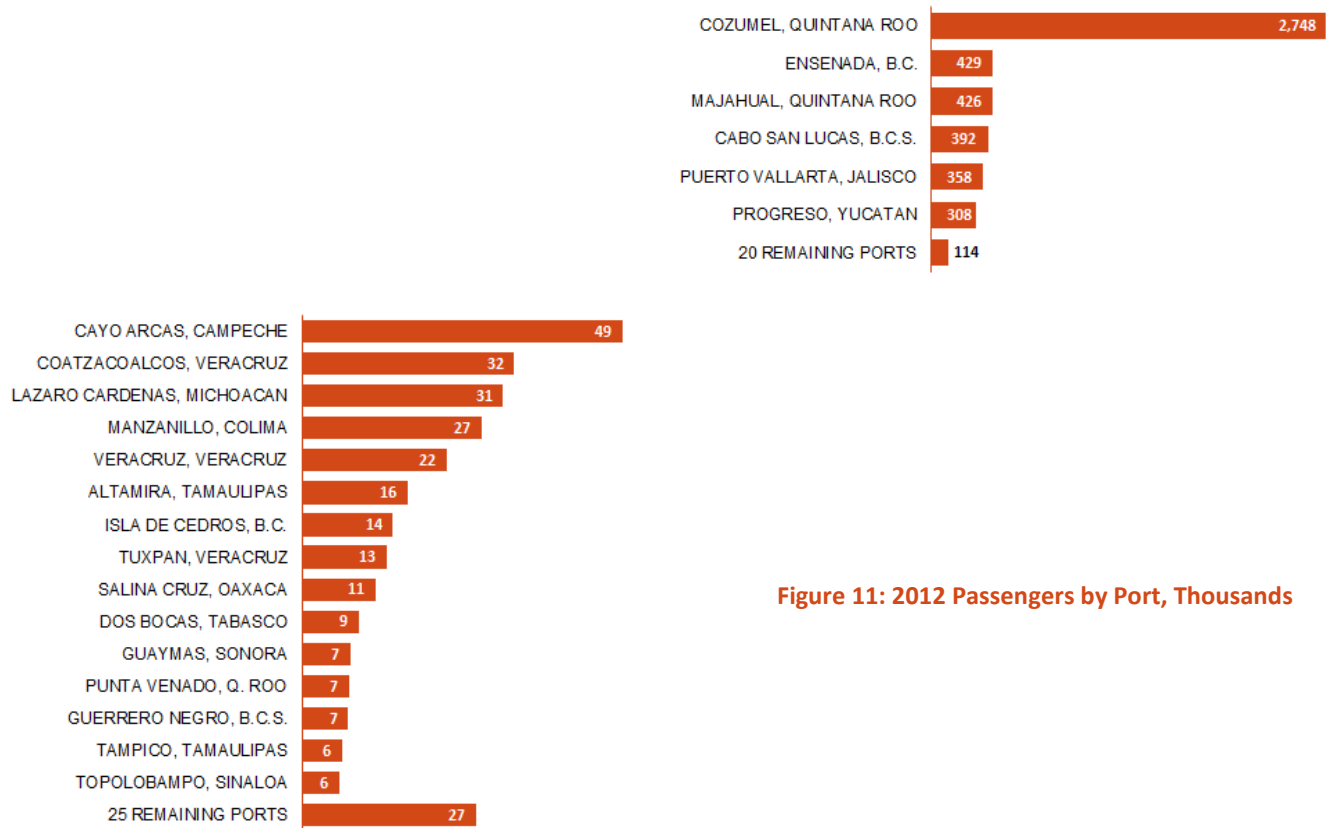


Figure 11: 2012 Passengers by Port, Thousands

Figure 12: 2012 Cargo by Port, Millions of Tons

Taken as a whole, México's port sector faces a range of challenges.

- Poor Multimodal Connectivity:** A number of ports face particular constraints in their connections to freight rail service. Only 11 of the 15 APIs have rail connections. Of these many face bottlenecks in terms of the rail infrastructure of the ports and the equipment and capacity to transload cargo efficiently between the two modes. This has caused a disproportionate amount of the terrestrial traffic to and from the ports to move by truck, relative to other industrialized countries. Accordingly, costs are higher for shippers. This truck traffic causes significant negative externalities as these heavy road freight flows move through adjacent urban areas, such as road damage, pollution and congestion. For those ports with rail service links many of the connecting rail lines route directly through dense urban areas. Rail freight impacts on neighboring communities have also risen as the volume of rail freight has increased.
- Inefficient Operations:** Despite significant efforts in the area of quality of service and organizational improvements, many ports still suffer from levels of service and efficiency well below international standard. Customers face excessive bureaucracy, weak intermodal integration, outdated customs procedures, lack of coordination between government authorities and operators, and limited implementation of modern technologies.
- Capacity Falling Behind Demand:** As trade has grown dramatically, several categories of maritime cargo have grown at double digit rates for the past decade. Many ports in México are approaching capacity limits. The ports of Veracruz and Manzanillo are at full capacity given their facilities, equipment, and technology.

- **Underdevelopment of Short-Sea Shipping (Cabotage):** México's extensive coastlines create great potential for shifting freight flows onto the short sea shipping mode. Due to port constraints, particularly terminal capacity for multimodal transfer, freight movements are dominated by trucks followed by rail.
- **Neglected Small Port Infrastructure:** The economies of many small riverine and coastal communities depend upon small port infrastructure to sustain the livelihoods of the people, particularly in the fishing industry. There is a significant need to address deferred maintenance and capital investments in many of these small facilities.
- **Steady Declines in Cruise Passenger Traffic:** Cruise line passenger traffic has declined by 6% between 2007 and 2012. 98% of cruise liner traffic accrues to only six ports. Some of these main ports have outdated facilities and poor connectivity for visiting cruise passengers. There is significant potential to develop additional ports of call with great potential to draw more tourism.

México has set several strategic, quantified goals to achieve relative to ports by 2018. The country's score on the World Bank's Logistics Development Index is targeted to be raised from 3.06 to 3.35 out of 5. México's grade for transport infrastructure as judged by the World Economic Forum should be raised from 4.45 to 4.56 out of a possible 7 points. Authorities intend to increase the volume of cargo transported by short-sea shipping from a 2012 base of 39 million to 45 million tons per year by 2018, and they plan to reduce per container port costs from \$18.10 in 2012 to \$17.60 by 2018.

In order to achieve these goals the National Infrastructure Program (PNI) includes an array of significant port investments, totaling \$5.46 billion in total investment spread across 23 discrete projects. These projects include improvement to existing freight and passenger facilities; basic infrastructure improvements such as fills, breakwaters, and dredging; and development of completely new terminals. Many include improved multimodal connections to road and rail networks.

Northern Expansion of the Port of Veracruz: This megaproject began in 2013 and will not be completed until 2025. Through 2018 alone investments are estimated at \$1.8 billion dollars. This involves the building of an additional, completely new, port facility with multiple terminals. The capacity of the entire port will be tripled, and portions of the legacy area of the port will be repurposed for integration back into the city's historic zone.

Expansion of the Port of Altamira: This project will be carried out between 2013 and 2018 and is expected to entail total investment in the amount of \$816 million dollars. There are several major components. Road and rail connections to the port will be improved. The port will be dredged especially to create capacity for marine oil and gas platforms. A natural gas compression station will be built at the port to take advantage of production increases expected to result from the energy reform activities.

Modernization of the Port of Mazatlán: This project will be carried out between 2013 and 2018 and is expected to entail a total investment of \$813 million dollars. The passenger cruise terminal will be rehabilitated, and a connection will be constructed to the Durango – Mazatlan highway. The overall configuration of the port will be reorganized, and the RO-RO terminal will be relocated. Basic infrastructure works will include construction of a new breakwater and channel and turning basin dredging.

Expansion of the Port of Lázaro Cárdenas: This program of four projects will add up to a total investment of \$593 million dollars. The largest project will be the basic infrastructure for a **Second Container Terminal** which will take place between 2013 and 2019. This investment of \$442 million will expand the Port's container capacity

from 250,000 to 3 million containers annually. The equipment for this new container facility is expected to add an additional \$62 million in investment. A third **new general cargo terminal** will be added to the port, covering 21 hectares and providing 286 meters of berth space, for a total investment of \$44 million. A **new specialized auto terminal** will be constructed for \$40 million, and a **new bulk grain terminal** will be constructed for an estimated investment of \$4.6 million.

Expansion of the Port of Tuxpan: Occurring between 2013 and 2018 this project will construct a new public terminal for containers and general cargo. This facility will complement the connection to the new México – Tuxpan highway and enable the port to provide a capacity relief option for the congestion at the Port of Veracruz. This project is intended to stimulate merchant marine activity by serving as a base for short-sea shipping growth. The total investment is projected at \$377 million dollars.

Isthmus Region Logistics Platform: This program will include total investments of \$244 million to develop a regional logistics platform.

Expansion of the Port of Manzanillo: This project will construct two new freight terminals for a total investment of \$263 million. A new state-of-the-art container terminal will be built at the port, for which an investment of \$197 million is envisioned. Facilities for general cargo will be expanded for an investment of \$66 million. These projects will be completed by 2018.

Expansion of the Port of Altura en Progreso (CG-247): This project will entail a total investment of \$126 million for works to modernize and expand the port, including development of a logistics platform.

Expansion of the Port of Matamoros (CG-182): For a total investment of \$81 million the port operations will be reconfigured and consolidated at this facility.

Modernization of the Port of Ciudad del Carmen (CG-063): Total investment of \$75 million is projected.

Expansion of the Port of Tampico: This project will increase the port's capacity for bulk cargo, in particular steel and ore. The total anticipated investment is \$70 million dollars.

Expansion of the Port of Puerto Vallarta (CG-024): This project will construct a new cruise ship passenger terminal for a total investment of \$54 million.

Modernization of the Port of Guaymas (CG-193): This project will entail a total projected investment of \$33 million.

Expansion of the Port of Topolobampo: This investment of \$37 million will develop two new terminals. A new terminal will be built to enable exports of copper concentrate, estimated to reach 360,000 tons per year within three years, a total investment of \$32 million. A new bulk grain terminal will be built to support up to 500,000 tons per year of grain movements to and from Mexican short-sea shipping destinations and for export to other Latin American countries, a total investment of \$4.6 million is projected.

Bulk Fluid Terminal at Laguna de Pajaritos: This project will support petrochemical movements with a total projected investment of \$23 million.

New General Cargo Berth at Salina Cruz: Total investment of \$18 million.

Modernization of the Port of Seybaplaya (CG-068): Total investment of \$14 million.

Project Contacts

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3.1.4 Aviation

Sector Background

By a count of sheer number of aviation facilities México ranks third in the world with 1,872 facilities of one type or another. Many of these are small, general aviation facilities (aerodromes) with limited capacity. 243 facilities are more substantial airports with paved primary runways of different lengths, described below. For context, the largest passenger jets in regular commercial service, such as an Airbus A380 or a Boeing 747-400, would (very roughly) require a runway length in excess of 9,000 feet for takeoff when fully loaded.

Number	Airport Primary Paved Runway Length Ranges		As %
	From	To	
12	9,997	+	5%
32	7,999	9,997	13%
80	5,000	7,995	33%
86	2,999	4,999	35%
33	0	2,999	14%
243			100%

Table 4: México's Airports with Paved Runways by Length

The Mexican government includes within the national aeronautical system 76 major airports. Another 1,388 facilities are classified as aerodromes and there are 408 registered heliports. Of the 76 airports in the system, 34 are concessioned to private airport operators. These private concessionaires are:

- ASUR: Aeropuertos del Sureste operates 9 airports.
- GAP: Grupo Aeroportuario del Pacífico operates 12 airports.
- OMA: Grupo Aeroportuario Centro Norte operates 13 airports.

19 airports in the system are operated exclusively by Aeropuertos y Servicios Auxiliares (ASA), a state entity. Another 4 are operated in partnership with ASA. México City's "Benito Juárez" International Airport (AICM) is operated by an independent state-owned company, Grupo Aeroportuario de la Ciudad de México or GACM. 18 other airports are managed by state or municipal governments. México's system is served by 21 major international airline carriers, including Mexican companies Aeroméxico and Volaris. There are a total of 10 domestic carriers operating a fleet of 258 aircraft.

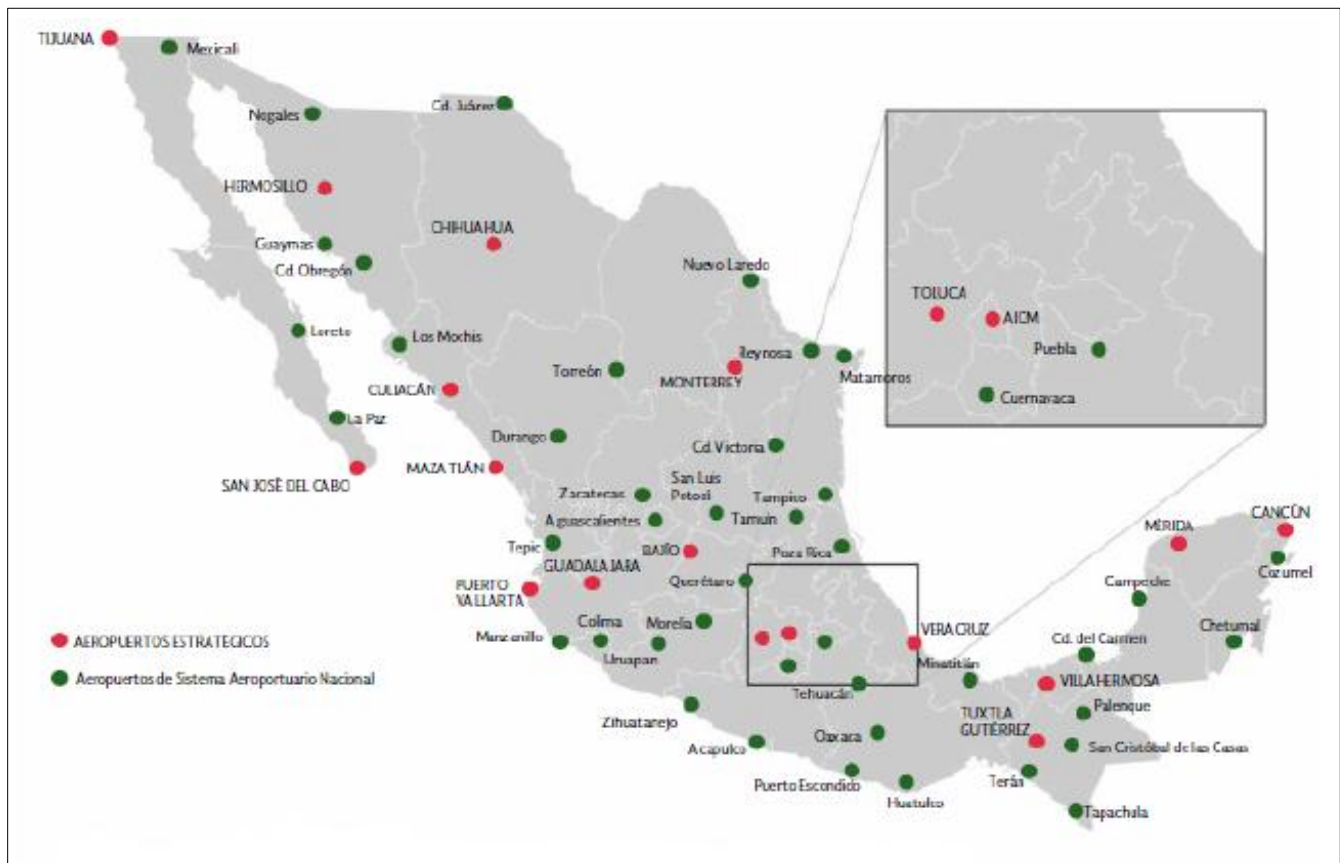


Table 5: Map of the Mexican National Airport System

Airline traffic is heavily concentrated within the system. In 2012 88% of the 86.4 million passengers transported were handled by only 17 airports, and of those AICM accounted for 34% of passengers transported. 98% of 747,000 tons of cargo transported passed through these same 17 airports.

Within the Mexican government the General Directorate of Civil Aeronautics of the Secretariat of Transportation has responsibility for the development and oversight of the Mexican aviation system. The Directorate has multiple divisions including airports, security, technical (standards setting), air traffic control, international, civil aviation affairs and accident investigation. Within this substantial agency the Division of Airports has the responsibility for development of airport infrastructure, services and aviation-sector concessions.

Airport	Operator						Total	As %	Cum. %
	AICM	GAP	ASUR	OMA	SOC.	ASA			
MEXICO CITY	31,532,331						31,532,331	33.9%	34%
CANCUN			15,962,162				15,962,162	17.1%	51%
GUADALAJARA		8,104,762					8,104,762	8.7%	60%
MONTERREY				6,417,755			6,417,755	6.9%	67%
TIJUANA		4,255,235					4,255,235	4.6%	71%
SAN JOSE DEL CABO		3,234,287					3,234,287	3.5%	75%
PUERTO VALLARTA		2,591,035					2,591,035	2.8%	77%
MERIDA			1,316,242				1,316,242	1.4%	79%
HERMOSILLO		1,276,201					1,276,201	1.4%	80%
CULIACAN				1,252,235			1,252,235	1.3%	82%
TOLUCA					1,161,064		1,161,064	1.2%	83%
VILLAHERMOSA			1,014,445				1,014,445	1.1%	84%
VERACRUZ			1,010,814				1,010,814	1.1%	85%
BAJO		975,873					975,873	1.0%	86%
CHIHUAHUA				885,659			885,659	1.0%	87%
TUXTLA GUTIERREZ (AAC)					855,073		855,073	0.9%	88%
MAZATLAN				731,297			731,297	0.8%	89%
CD. JUAREZ				702,904			702,904	0.8%	89%
ACAPULCO				617,079			617,079	0.7%	90%
Remaining 41 Airports	-	2,203,110	1,775,993	2,685,544	347,189	2,232,328	9,244,164	9.9%	100%
Subtotal	31,532,331	22,640,503	21,079,656	13,292,473	2,363,326	2,232,328	93,140,617	100%	
As %	34%	24%	23%	14%	3%	2%	100%		
Cumulative %	34%	58%	81%	95%	98%	100%			

Table 6: Matrix of México's Top 60 Airports by 2013 Passenger Traffic and Airport Operator

The 17 largest airports, considered the strategic airports, are well connected to the trunk road network. The government's strategic development objectives for this sector include:

- **Capacity Expansion in the Valley of México:** The country will develop long-term solutions to the steadily increasing demand for airport services in the Valley of México, in particular by expanding capacity at México City International Airport. AICM was declared at full capacity in 2012. This inability to handle more traffic at the country's largest airport impacts national competitiveness. The present congestion creates significant safety concerns.
- **Reducing Air Logistics Costs:** The supervision of the development of the national carriers will improve, and more bilateral international air transport agreements will be established. Generally costs should be lowered, frequency of service increased, and quality of service improved.
- **Improving Safety:** This will be accomplished by aligning the certification of airports with strict international standards, improved training of pilots and air traffic controllers, investments in traffic control systems, and stricter implementation of safety procedures.
- **Support Regional Development:** This will be accomplished by investments in the network of regional airports managed by ASA and increasing interconnections.

The government has set two primary quantitative goals to be achieved by 2018. Air passenger-kilometers travelled should increase from 4.9 million per month in 2012 to 162 million. Available air seat-kilometers should increase from 1,849 million per month to 2,145 million per month.

PNI Projects

In support of achievement of these goals, the government of México has included 20 significant aviation projects in the National Infrastructure Plan (PNI) with an estimated total investment of \$276 million. This amount does not include investments associated with capacity increases at AICM.

- **Expansion of the México City Airport:** This effort is still in feasibility stages and planning activities and information are being closely held by the operator and the Mexican government. The PNI notes that the investments involved in this expansion could be potentially as large as \$9 billion dollars, other published estimates have been in excess of \$5 billion. Reports indicate that seven international engineering firms were shortlisted in April of 2014 to compete for the design of a 5,000 hectare expansion of AICM, incorporating 70 gates, and capable of handling 40 million additional passengers per year. This expansion megaproject would be phased, with the project potentially beginning as soon as 2014 and the first operations initiating in 2018. The shortlisted designers are: Zaha Hadid; Norman Foster; Richard Rogers; SOM; Gensler; Pascall+Watson; Teodoro González de León with Taller de Arquitectura X.
- **Expansion of general aviation facilities at the Hidalgo Airport (CG-079):** \$90 million in projected investment.
- **Runway extension at Lazaro Cardenas:** \$76 million in projected investment.
- **Completion of the Palenque Airport including terminal modernization:** \$18 million in projected investment. This project began in 2010 and is scheduled for completion in 2014.
- **Modernization of the Chetumal Airport (CG-164):** \$15.5 million in projected investment.
- **Expansion of the Monterrey Airport:** \$15 million in projected investment.
- **Construction of a new airport in the Isthmus region (CG-210):** \$14 million in projected investment.
- **Completion of the Nuevo Laredo cargo airport (CG-183):** \$14 million in projected investment.
- **Rehabilitation and modernization of the Atlangatepec Airport (CG-251):** \$9.3 million in projected investment.
- **Modernization of the El Lencero Airport in Jalapa (CG-220):** \$7.6 million in projected investment.
- **Expansion of the Tijuana Airport:** This investment of \$5.7 million will expand the terminal and perimeter road.
- **Expansion of the Puerto Vallarta Airport:** This \$5.2 million investment will expand the terminal, satellite buildings and commercial spaces.
- **Modernization of the Bajio-Guanajuato Airport:** This \$4.3 million investment will expand the baggage and waiting areas.
- **Expansion of the Chihuahua Airport:** This \$3.8 million investment will improve the security areas and perimeter road.
- **Expansion of the Hermosillo Airport:** This \$1.5 million investment will expand the terminal building.
- **Expansion of the Culiacan Airport:** This \$1 million investment will improve illumination, security and access control systems.
- An additional \$1.1 million in total investment will occur through small projects at the airports of **Mazatlan, Toluca, San Jose del Cabo, San Luis Potosi, and Merida.**

USTDA Projects

ASA Airport Development and Management Feasibility Study

In October of 2009 USTDA completed this advisory project for Aeropuertos y Servicios Auxiliares (ASA). The study covers four airports in México: Toluca (TLC), Puebla (PBC), Cuernavaca (CVJ), and Querétaro (QRO). The study had two components. First, it identified U.S. route and carrier combinations that could be likely new service opportunities for the airports. This component included exploratory meetings with selected carriers that would potentially support and market new service. The second half of the project focused on necessary changes to equipment and procedures that would be required to support expanded service to the U.S. The study included analyses and recommendations for security and included assessments of developmental and environmental impact.

San Luis Potosi International Airport Runway Expansion and Modernization Feasibility Study

In September of 2009 USTDA completed this feasibility study, prepared for concessionaire OMA as the project sponsor, and performed by a consortium of PBS&J, Infrastructure Management Group, the Texas Transportation Institute and AVILA Consultoria Ambiental. This study analyzed the feasibility to improve SLP's infrastructure in order to alleviate airport congestion, attract additional U.S. and Mexican airline and cargo service, and enhance regional growth. The study incorporated a facility assessment and analysis, a demand study, analysis of capacity expansion requirements; and environmental, financial and trade analyses. An airport development plan was produced complete with cost estimates and a proposed schedule. This study resulted in a proposal for \$11.9 million in investments in basic infrastructure improvements, exclusive of property acquisitions and systems.

Project Contacts

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Project Sponsor(s)	U.S. Trade & Development Agency	U.S. Commercial Service México
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3.15 Mass Transit and Intelligent Transportation Systems

Sector Background

México's urban environments face critical transportation challenges.

- Rapid, continuing urbanization. México's urban population is over 78% and urbanization continues at a 1.2% rate. México City by itself is the tenth largest urban area by population in the world.
- A high and rising motorization rate. Motorization is increasing in Mexican cities at rapid 10% per annum pace.
- Disproportionate public funding patterns that favor automobile transportation (65% of funding in 2012) over more sustainable mass transit and non-motorized modes.
- Low density sprawling development patterns leading to long transit times.
- Inefficiently allocated land and street space, discouraging public transport.
- An urban transport environment dominated by small private operators and aging, limited capacity vehicles.
- Inadequate fuel specifications contributing to inefficiency and pollution. México's transport sector is highly carbon-intensive, accounting for 18% of greenhouse gas emissions generally, with concentrations as high as over 40% in cities.
- Rising public impacts including accidents, road maintenance costs, congestion, and noise pollution.
- A particular burden is imposed on poorer segments of society who face increasing transit times and high costs associated with urban transport.

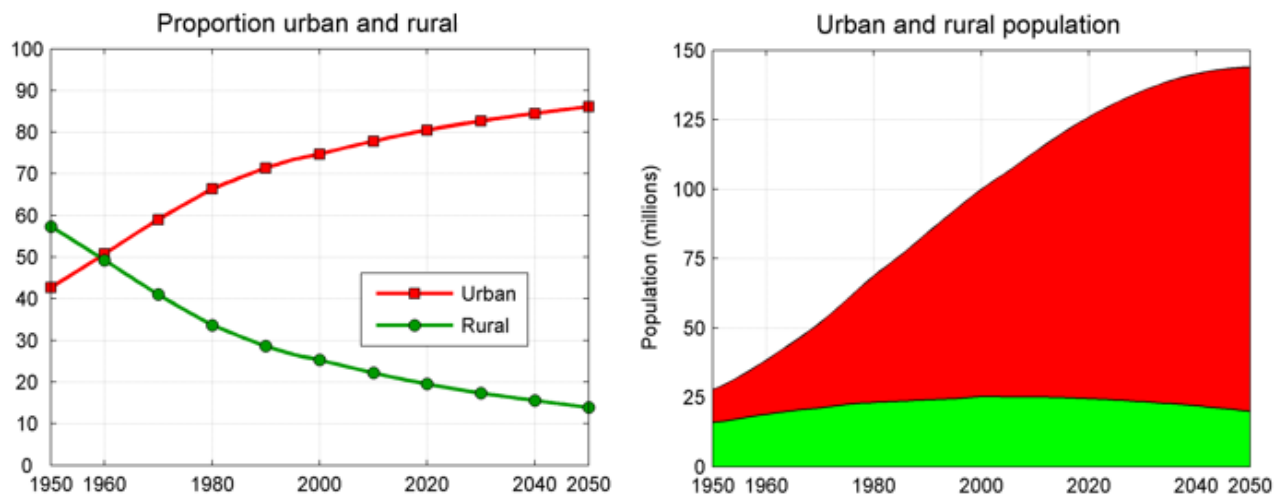


Figure 13: United Nations Projections for Urban Population Growth in México through 2050

At the federal level, the **Secretariat of Social Development (SEDESOL)** is responsible for formulating the federal policies on urban development and transport. The **Secretariat of Communications and Transport (SCT)** is responsible for the development and maintenance of the federal railroad and highway network, sections of which often enter and traverse urbanizations. For many cities, the responsibility for transport matters such as short and medium range land use and planning is divided among agencies at the state and municipal level, or between different departments within individual agencies or even between different municipalities within the same metropolitan area. In order to increase coordination of mass transit policy at the federal level, the

government has created a new **Secretariat of Agricultural, Territorial and Urban Development (SEDATU)**. SEDATU will serve to coordinate the support of other Secretariats, including SCT and SEMARNAT in the area of sustainable urban development.

The strategic objectives for the urban transport sector established in the SCT's official Program through 2018 include:

- Reduction of urban transport costs in terms of operating costs, tariffs, and lost time for users.
- Improved intermodal connections and promote integration of passenger transportation between modes.
- Reduce accidents within public transport systems, and by modal shift away from personal automobiles.
- Encouraging more rational use of personal automobiles.
- Promote the financing and development of mass transit systems including BRT, articulated buses, light rail, non-motorized transport, and metros.
- Reduce fuel consumption and generation of greenhouse gases (GHGs).
- Promote urban transport accessibility for the elderly, handicapped and parents with children.
- Promote accessibility to low cost, efficient transport for poorer populations.
- Promote the implementation of intelligent transportation systems.
- Promote the implementation of security and surveillance systems in public transport with a particular focus on the safety of women and children.

México's government has responded to the challenges faced with a multi-pronged approach to rationally develop and improve urban mass transit systems across the country. México created the **National Mass Transit Program (PROTRAM)** in 2009 within FONADIN to improve the efficiency of the sector and steer it towards a lower-carbon development path. PROTRAM offers grants to sub-national governments to cover up to 100% of studies and 50% of infrastructure costs for public transport projects that meet certain criteria. This is the first program in México that provides federal funding for urban public transit. All mass transit projects supported by PROTRAM have climate change considerations and have emission baselines. **The Center for Sustainable Transport México (CTS-México)** serves as the government's main advisor to PROTRAM. It has reviewed the technical and financial feasibility of 21 public transportation projects across the country and improved the quality of eight project designs in Guadalajara, México City, Chihuahua, Mexicali, Tijuana, Culiacan, Monterrey and Veracruz. By providing project evaluation guidelines and assistance, CTS- México not only improves individual project proposals, but also strengthens PROTRAM's institutional capacity to provide funds effectively in the future. Since PROTRAM only funds mass transit projects with private sector participation, the Mexican government has also requested support in its creation of a National **Urban Transport Transformation Program (UTTP)**, to complement PROTRAM. UTTP emphasizes complementary measures including support for non-motorized transport, such as bicycle and pedestrian projects. Together FONADIN's PROTRAM and UTTP are the core of the government strategy to transform México's urban transport to a lower carbon growth course.

The major components of this development and financing strategy include:

1. Urban Institutional Capacity Building
2. Development of Integrated Urban Mass Transit Systems
3. Project Management

The bulk of the original scope of \$2.6 billion in funding for these program activities was identified through FONADIN (28%), local government contributions (27%), and private participation (31%). The World Bank Group is providing the balance of 13% of funding. BANOBRAS serves as the coordinating institution for these activities and investments, performing the roles of procurement and financial management oversight, credit monitoring, and project evaluation.

México's quantified goal for mass transit development is to increase the number of major cities with dedicated mass transit systems from 22% to 47%. The following 34 cities are the urbanizations being measured, each with populations that presently exceed 500,000, or will by the year 2018.

- | | | |
|-------------------|-----------------------|--------------------|
| • Valle de México | • Mexicali | • Cancún |
| • Guadalajara | • Aguascalientes | • Xalapa |
| • Monterrey | • Cuernavaca | • Oaxaca |
| • Puebla-Tlaxcala | • Acapulco | • Celaya |
| • Toluca | • Tampico | • Poza Rica |
| • Tijuana | • Chihuahua | • Pachuca |
| • León | • Morelia | • Puerto Vallarta |
| • Juárez | • Saltillo | • Tepic |
| • La Laguna | • Veracruz | • Tlaxcala-Apizaco |
| • Querétaro | • Villahermosa | • Matamoros |
| • San Luis Potosí | • Reynosa – Río Bravo | |
| • Mérida | • Tuxtla Gutiérrez | |

The PNI released in 2014 identifies over \$3 billion in total investment in specific mass transit projects or programs, while total investment projected for urban mass transit projects underway and in the pipeline is estimated at over \$6 billion by BANOBRAS, including the Toluca Passenger Train project. The mass transit projects included in the PNI are:

- **Expansion of the urban light rail system in Guadalajara (CG-004):** This project will expand one existing light rail line and construct a completely new third line. The total investment is projected at \$1.35 billion.
- **Establish a mass transit system in the eastern part of the state of México (CG-133):** This project extend line A of the Sistema de Transporte Colectivo (STC) from La Paz to Chalco de Diaz Covarrubias. With a projected total investment of \$839 million, this project will be carried out from 2015 to 2017.
- **Expansion of the Metrorrey Rail System and Ecovía BRT (CG-033):** This project involve construction of a new Line 3, and expansion of Line 4, of the Metrorrey rail system. The Ecovía Project will implement a 30.1 kilometer BRT system with 39 stations, running between Lincoln in the northwest of the city and Valle Soleado east of the center city. The fleet of 80 initial buses will feature low-emissions engines, air conditioning, modern passenger information systems and farecards, and Wi-Fi. The total investment is projected at \$434 million.
- **Modernize the urban public transport in the Lagunera region (CG-116):** This project primarily involves development of a new 32.5 kilometer BRT corridor that will run from Lerdo, in the state of Durango, to Matamoros, in the state of Coahuila. The total investment is expected to be \$171 million.

- **Establishment of a BRT system in Tijuana (CG-123):** This new BRT system will cover a 25 kilometer main corridor and serve 34 stations with strong integration through station connectivity to 32 feeder routes. With an estimated investment of \$151 million, this project is to be carried out between 2015 and 2016.
- **Construction of a mass transit system in Merida (CG-238):** This project is expected to create total investment of \$137 million.
- **Modernization of the Atlacomulco Bus Terminal (CG-174):** This project, located in the northwest of the state of México, will have a total projected investment of \$5.3 million.

As of this writing mass transit projects in execution included:

Project	State	PNI	CG	Total Investment (Rounded to Millions)
Metrorrey Line 3	Nuevo Leon	Yes	CG-033	\$ 374,000,000
Expansion of Line 1 SITEUR Guadalajara	Jalisco	Yes	CG-004	103,000,000
BRT Monterrey ECOVIA 1	Nuevo Leon	Yes	CG-033	131,000,000
BRT Tijuana	Baja California	Yes	CG-123	136,000,000
BRT Chihuahua 1: North - South	Chihuahua			68,000,000
BRT Mexicali Express Line 1	Baja California			54,000,000
BRT Puebla 1: Chachapa - Tlaxcala	Puebla			112,000,000
BRT Acapulco - Cd. Renacimiento	Guerrero			142,000,000
BRT Chimalhuacán- Pantitlán	State of México			147,000,000
BRT Puebla 2 Norte-Sur (2 BRTS)	Puebla			155,000,000
BRT Pachuca Centro Téllez	Hidalgo			65,000,000
BRT Ecatepec Indios Verdes	State of México			154,000,000
TOTAL				\$ 1,641,000,000

Table 7: BANOBRAS - PROTRAM Mass Transit Projects in Execution


The following 12 mass transit projects in preparation are identified by BANOBRAS:

Project	State	PNI	CG	Total Investment (Rounded to Millions)
BRT ZM de la Laguna	Coahuila-Durango	Yes	CG-116	\$ 165,000,000
BRT Mérida	Yucatan	Yes	CG-238	249,000,000
BRT Zacatecas	Zacatecas			95,000,000
BRT Oaxaca Primary Corridor	Oaxaca			83,000,000
BRT León Optibús Third Phase	Guanajuato			60,000,000
BRT Durango	Durango			87,000,000
BRT San Luis Potosí	San Luis Potosi			34,000,000
BRT Aguascalientes	Aguascalientes			137,000,000
Tren Chalco-La Paz (Metro)	State of México	Yes	CG-133	648,000,000
Línea 3 de Tren SITEUR Guadalajara	Jalisco	Yes	CG-004	1,350,000,000
Tren México-Toluca	State of México			2,943,000,000
Suburbano 1 Expansion to Huehuetoca	State of México			457,000,000
TOTAL				\$ 6,308,000,000

Table 8: BANOBRAS - PROTRAM Mass Transit Projects in Pipeline

Projects

Expansion of the Guadalajara Light Rail System

	Project Type	Mass Transit (Light Rail)
	State(s):	Jalisco
	Projected Investment:	\$1.3 billion
	Timeline:	2014 - 2018
	Project Sponsor(s):	SCT

Project Background and Scope

Guadalajara is the second most populous city in México with over 1.5 million inhabitants in the city proper. The Guadalajara Metropolitan Area includes the municipalities of Zapopan, Tlaquepaque, Tonolá, El Salto and Tlajomulco de Zuñiga, with a total population of over 4.2 million persons.

The Guadalajara Light Rail System (SITEUR) was inaugurated in 1989 with the construction of the first line with nineteen stations, running 15.5 kilometers from the stations Periférico Norte south to Periférico Sur. 6.6 kilometers of this alignment are underground. Line 2 was inaugurated in 1994 running 8.8 kilometers from station Juárez (interchange with Line 1) east to station Tetlán. The present fleet consists of 48 articulated electric multiple units receiving power via overhead catenary. The original suppliers for equipment and systems included Mitsubishi, Siemens and Bombardier. Today SITEUR transports more than 240,000 passengers per day, making it the 9th largest system by ridership in Latin America.

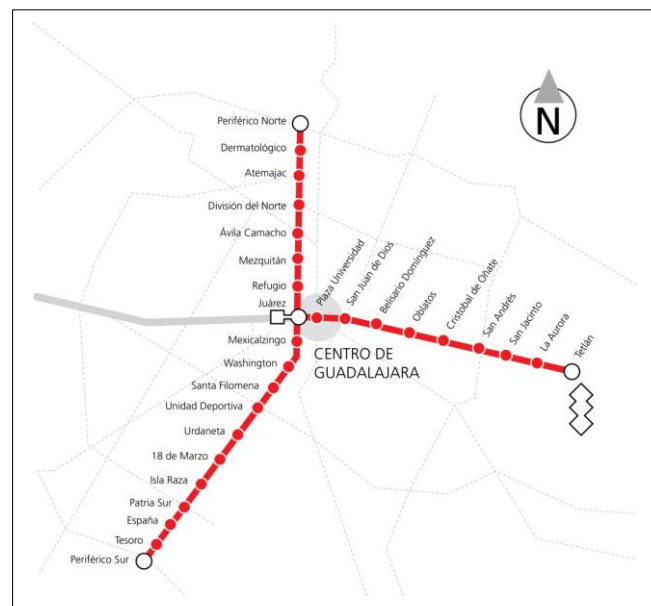


Figure 14: Present Extension of the Guadalajara Light Rail System

Population growth for the area exceeds 1.5%. As the core of the city has shifted to more intense commercial uses, residential population has moved to the periphery, increasing demand for transportation. Motorization rates have more than doubled since 2000, to over 1.2 million automobiles. Major city corridors have witnessed a steady decline in average speed as congestion has increased, and negative impacts including road maintenance costs, pollution and accidents are a growing problem.

To address these problems the federal and local governments are planning a significant expansion of the SITEUR system which includes a completely new line.

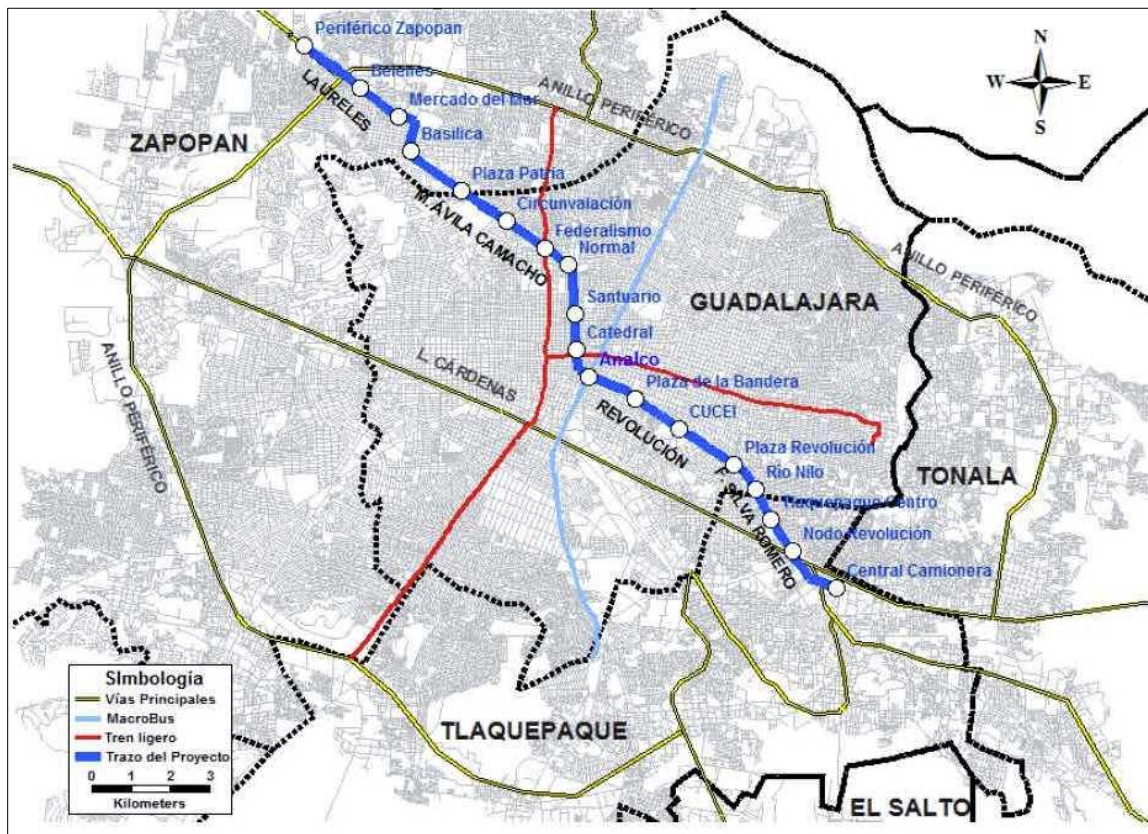


Figure 15: Guadalajara Light Rail System Line 3

The new Line 3 of SITEUR will extend from the station Periférico Zapopan in the northwest of the urban area, running 21 kilometers southeast to station Central Camionera in Tlaquepaque. This primarily double-track rail line will be at ground level on the outer extensions, on an elevated viaduct for 15.65 kilometers on either side of the city core, and underground for 3.1 kilometers within the core.

18 stations will be constructed as part of this project, 13 surface stations and 5 underground, with platform lengths of 75 meters capable of servicing consists of 3 EMUs. The infrastructure will include yards and maintenance workshops.



Figure 16: Guadalajara SITEUR Line 3 Station Concept

Planned rolling stock will be bi-directional EMU's with a length of 29.56 meters, width of 2.65 meters, height of 3.57 meters and maximum pantograph reach of between 3.868 and 6.268 meters. The trains should have a

capacity for 500 passengers each, with seating for 100. Power will be provided by 600V DC overhead catenary and the vehicle top service speed will be 70 kilometers per hour.

The system will require at least 6 substations for conversion of external AC power to DC for rolling stock operation. At least 22 substations will be built for electrical power provision for operations of the passenger stations, the ventilation system, and the maintenance facility.

Systems to be procured include a high-speed digital data network, integrated ticketing, centralized control and digital trunked radio. Centralized customer service center and a passenger information system will be part of the project, including multimedia message screens in all stations.

Project Status and Implementation Timeline

This project is in advanced planning stages with procurement expected to begin in 2014. Construction is expected to span four years.

Project Cost, Financing and Procurement

Based on the current federal presentation, the project budget is as follows:

Source	Federal	State	Private
Amount	1,081,680,771	144,685,115	122,590,081
Total	\$1,348,955,966		

Table 9: Guadalajara Light Rail Line 3 Sources of Funds

Year	1	2	3	4
Amount	274,377,855	464,175,236	496,026,186	114,376,689
Total	\$1,348,955,966			

Table 10: Guadalajara Light Rail Line 3 Projected Spending by Project Year

*The project cost includes the following component breakouts. These are approximate, sourced from a late 2013 technical study at which time the project was budgeted at \$1.16 billion.

Category	Item	Cost (Rounded, Millions)	Category Total
System Civil Works	Workshops and Yards	\$33,000,000	\$747,000,000
	Underground Stations	\$147,000,000	
	Tunnel Track	\$154,000,000	
	Transitions/Trenches	\$12,000,000	
	Elevated Track	\$173,000,000	
	Elevated Stations	\$225,000,000	
	At-Grade Track	\$3,000,000	
Complementary Works	Plaza Basilica Pedestrian Tunnels	\$12,000,000	\$34,000,000
	Other	\$3,000,000	
	Intermodal Center	\$19,000,000	
Electromechanical	Signalization	\$55,000,000	\$235,000,000
	Information Systems	\$19,000,000	
	Electrification	\$119,000,000	
	Communications	\$42,000,000	
Management	Project Management	\$6,000,000	\$6,000,000
Land	Right of Way Acquisition	\$34,000,000	\$34,000,000
Rolling Stock	Electric Multiple Units	\$106,000,000	\$106,000,000
Grand Total*			\$1,162,000,000

Table 11: Guadalajara Light Rail Line 3 Budget Breakdown


U.S. Export Opportunities

Export opportunities for U.S. firms are diverse. Track and infrastructure components are an area where U.S. firms actively export goods to México. Communications and information systems, or components and subsystems of these items, are another potential market. The rolling stock will be provided by non-U.S. headquartered companies. Many of these companies have vehicle manufacturing facilities in the United States that could conceivably produce the EMU's for shipment to México. Opportunities would also exist for U.S. companies to serve as suppliers to these vendors for components or sub-systems.

Project Contacts

Project Sponsor(s)	U.S. Trade & Development Agency	U.S. Commercial Service México
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BRT Zona Metropolitana de la Laguna

	Project Type	Mass Transit
	State(s):	Coahuila and Durango
	Projected Investment:	\$165 million
	Timeline:	2014 - 2015
	Project Sponsor(s):	SCT

Project Background and Scope

The Metropolitan Zone of La Laguna is formed by four cities: Torreón and Matamoros in Coahuila state and Gómez Palacio and Lerdo in Durango state. More than 1.2 million people live in this urbanization, it is the ninth largest metropolitan region in the country.

Infrastructure and Rolling Stock

This project will include all the infrastructure, equipment and systems necessary to initiate the bus rapid transit (BRT) service along a first major corridor. This 32.5 kilometer corridor will run from Lerdo, in the state of Durango, to Matamoros, in the state of Coahuila. There will be 34 intermediate stations. Of these, 26 stations will be 5 meters wide, and 8 will be 2.5 meters wide. There will be three major terminals. Terminal Durango will be 10,850 square meters and Terminal Coahuila which will be 11,093 square meters. 30,000 square meters of bus parking will be provided at Terminal Coahuila. The Muzquiz Intermodal Center will cover 6,262 square meters and serve to link the BRT to trunk and feeder transportation connections. Between Terminals Coahuila and Durango operations will occur in dedicated BRT lanes, with mixed traffic operations occurring on the corridor segments beyond the two terminals.

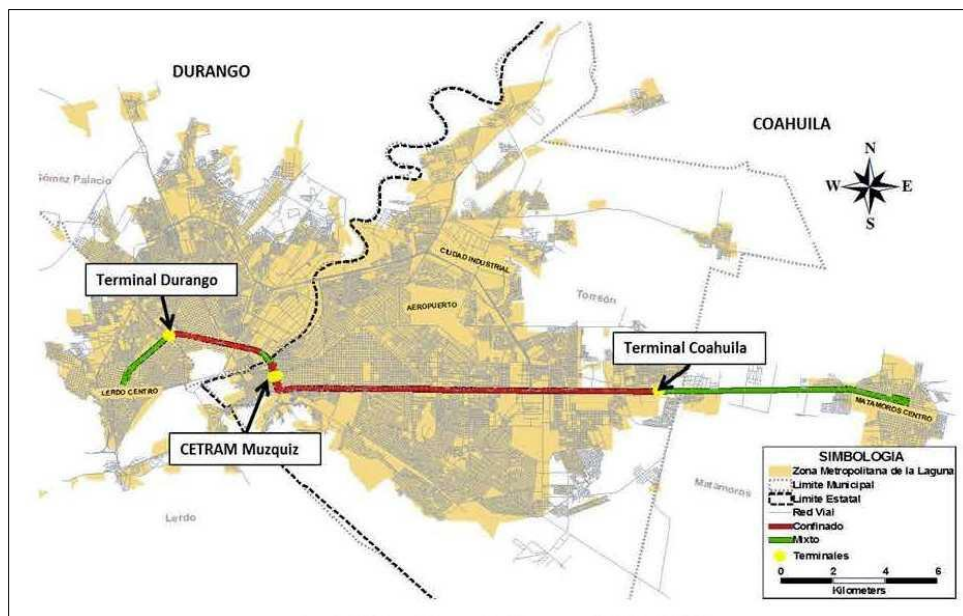


Figure 17: Map of the La Laguna BRT Corridor Project

This corridor is meant to serve as a base for future expansion of the BRT system along additional alignments, as well as to leverage and coordinate the offerings of the other multimodal transportation providers in the region. The ticketing system will be designed to integrate the BRT with future line expansion as well as other transportation service providers.

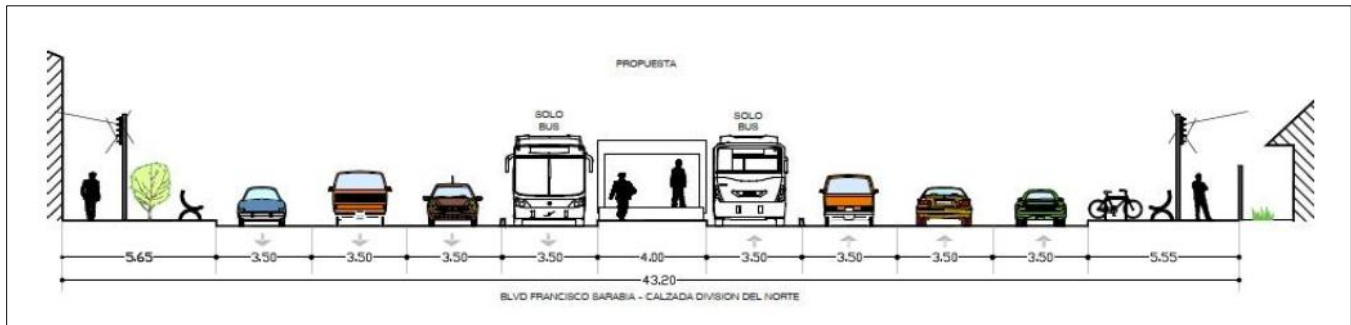


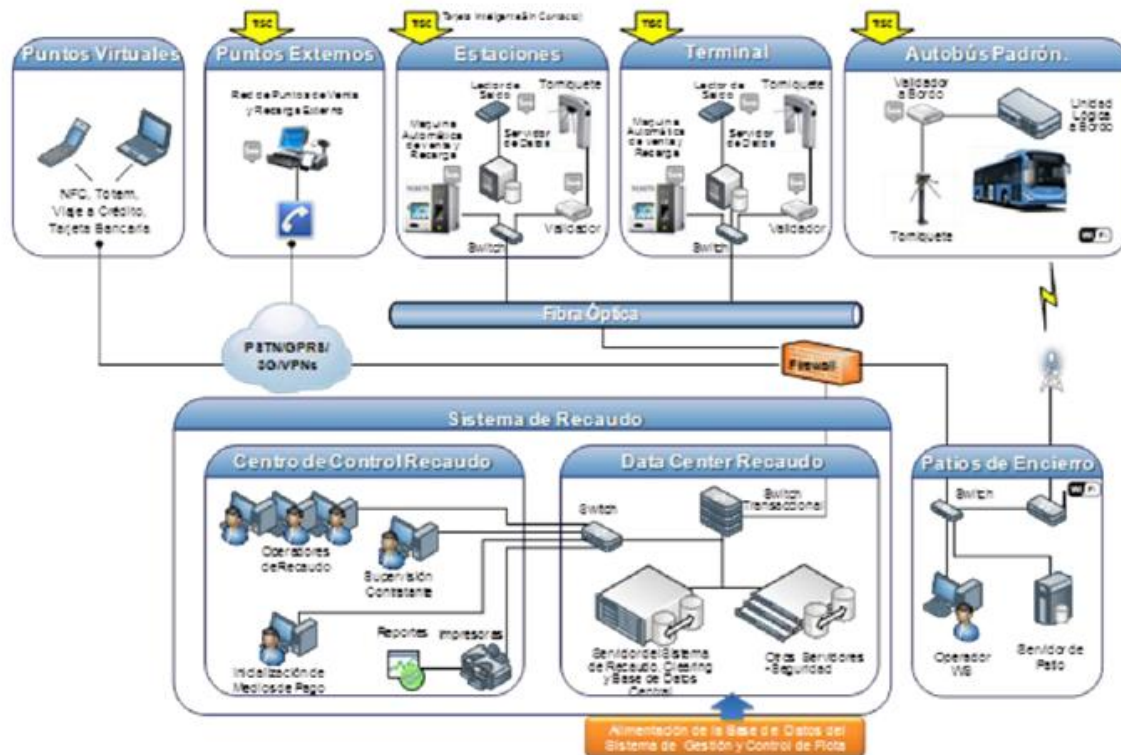
Figure 18: Laguna BRT Station Cross Section

The primary passenger vehicle for the BRT is specified as a bus 12 meters in length, with roughly 35 seats and capacity for 100 passengers, with three doors on the left and two on the right. Smaller buses - ten meters in length with capacity for 80 passengers, and 8.5 meters in length carrying 75 passengers - are envisioned as serving less dense feeder routes. A short bus for special services or low density connectors is envisioned as measuring 6 meters long and having capacity for 40 passengers. This fleet is expected to be diesel powered. This project expects to procure 184 of the 12 meter buses to initiate operations.

Information Systems

A key component of this BRT project will be investments to provide a state-of-the-art integrated intelligent transportation system providing safety, signaling, security, communications and control functions. There will be three major subsystems.

- Ticketing System:** This system must enable the operator to control and manage all aspects of user payment; accounting; and system access, validation, and control. It will enable analysis, processing and reporting, including drilling down to individual transactions, throughout the system's operating cycle. This system will be based exclusively on smart cards for fare payment, at stations or aboard the buses, and feature equipment enabling unattended fare payment and card purchases. The system will have an analytics capability supporting operational and business planning of the service. The system selected must have a capability of accommodating future expansion of the BRT as well as integration of fare payments for connecting multimodal transportation services. It must be capable of dynamic adaptation of tariffs within programmable parameters. The system database must be based on an open and documented technology.



May 2014

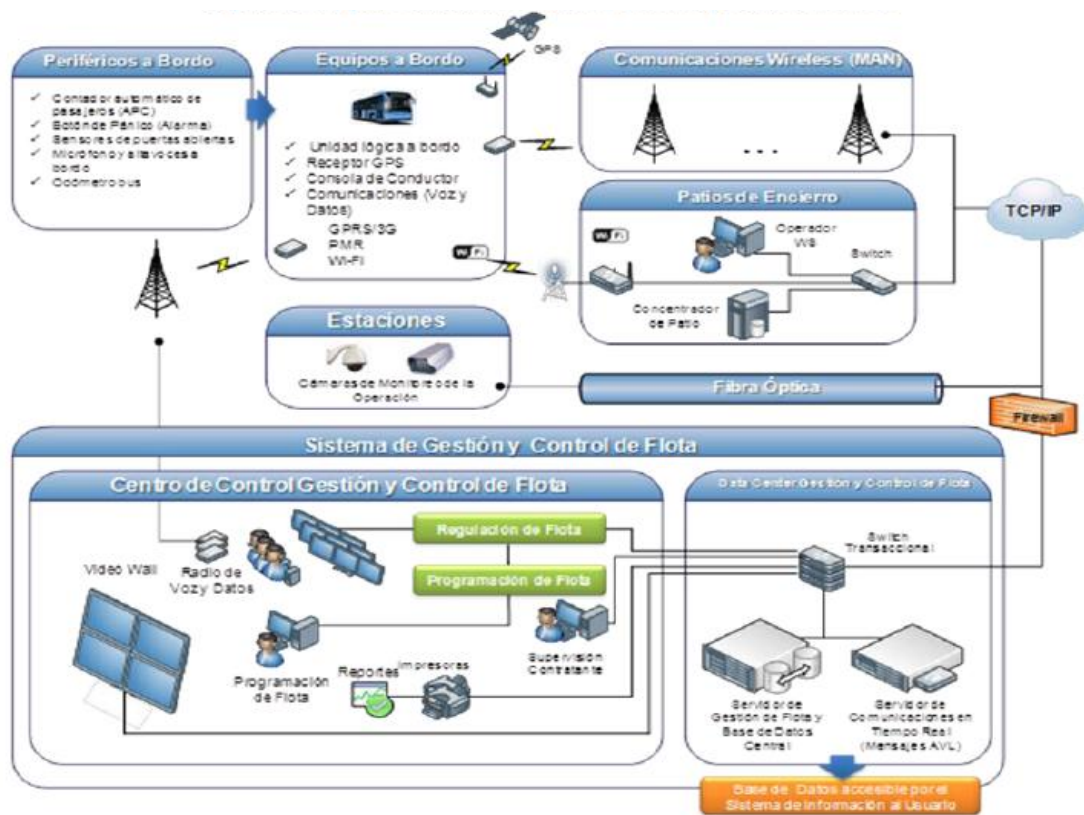


Figure 20: Laguna BRT Operations Management System Conceptual Diagram

- Passenger Information System:** This system will enable the operator to provide users with useful and opportune information on the services offered, routes, schedules, tariffs, and special access features such as for the handicapped. Station displays will provide passengers with real time information on approaching buses and onboard systems will inform them of approaching stops. They system will integrate telephone and web based components to provide interactive passenger access to the ticketing and fare system, as well as to receive real time updates on operations.

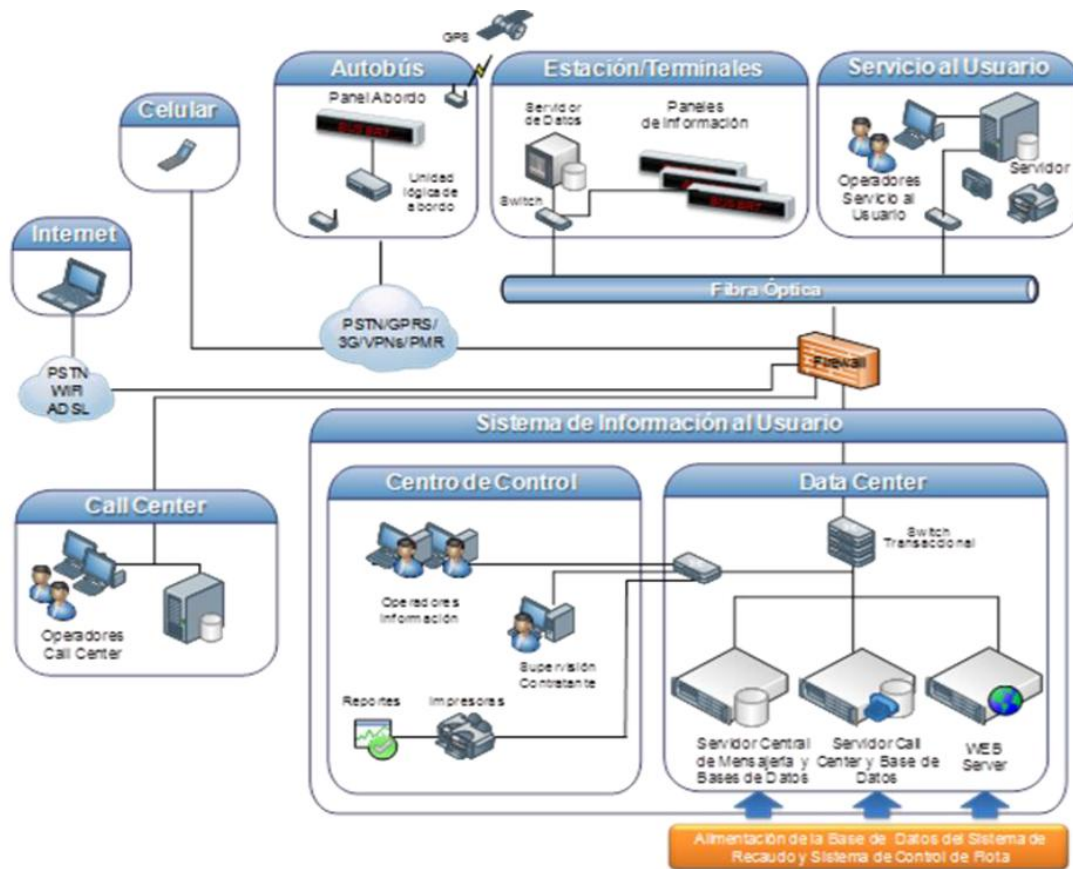


Figure 21: Laguna BRT Passenger Information System Conceptual Diagram

Project Status and Implementation Timeline

At the time of this writing the major project planning studies had been completed. Discussions between local and federal project stakeholders were underway to finalize remaining details. Procurement is expected to occur before the end of 2014, with construction beginning in 2015 and operations commencing two years later.

Project Cost, Financing and Procurement

This project is expected to be constructed with a mix of funding, including private participation. The original plan saw funds distributed by sources over time as follows:

Year	Totals	Federal Funds	Municipal Funds	Private Funds	Trust Funds
2014	36,629,420	24,123,087	-	4,203,763	8,302,569
2015	28,269,164	43,954,900	-	56,819,183	27,495,081
Total	164,898,583	68,077,987	-	61,022,946	35,797,650

Table 12: Lagunera Region BRT System Sources of Funds

This spending plan will shift into 2016 as the project is past the start date originally conceived in early planning. Within these amounts approximately \$22 million is planned to be spent on information, control, safety and communications systems. \$32.8 million will be spent on the initial fleet of 184 buses.

U.S. Export Opportunities

This project will present several opportunities for U.S. participation. U.S. companies could participate as investors or concession operating partners. The system will include procurement of four types of bus rolling stock. Information and communications systems are a key component of the BRT where there is potential for U.S. software and hardware provision. Competition from European suppliers for these opportunities will be strong.

Project Contacts

Project Sponsor(s)	U.S. Trade & Development Agency	U.S. Commercial Service México
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USTDA Projects

Puebla ITS Technologies Feasibility Study

In 2012 USTDA performed a Definitional Mission to articulate a project eligible for federal grant financing to evaluate opportunities in the intelligent transportation systems sector in Puebla. The resulting plan for a feasibility study was scoped to evaluate the BRT system in Puebla as well as the identification of new ITS technologies that are likely to improve the BRT's operational efficiency, safety, and security. Some of the technologies that will be evaluated include (but not limited to), Computer Aided Dispatch Systems (CAD), Automatic Vehicle Location (AVL) Systems, Advanced Communication Systems (ACS) for BRT, Safety and Security systems (BRT), Integrated Fare Collection Systems, Passenger Information Systems, Automatic Passenger Counter Systems, Radio Communication Systems, Fleet Management and Maintenance Systems, Transit Signal Priority (TSP) Systems, Traffic Control Systems, on-board technologies such as on-board passenger displays, Automatic Voice Annunciation Systems (AVAS), on-board Video Monitoring (OVM), silent alarms, Mobile Data Computers (MDCs), built-in Mobile Data, Terminals (MDTs), Global Positioning Systems (GPS), Command and Control Centers for BRT operations and other ITS technologies related to BRT systems. This feasibility study is presently underway.

Jalisco ITS Definitional Mission

In response to a request from the Secretariat of Mobility of the state of Jalisco, USTDA commissioned a Definitional Mission to evaluate and recommend activities for USTDA funding consideration. The activities recommended by the selected Contractor should help to foster U.S. export opportunities by supporting the implementation of priority development projects that advance sustainable infrastructure and economic growth in México. DM will focus on evaluating several ITS project opportunities that have been proposed by the Secretariat of Mobility, including the modernization of the Secretariat's transportation control center, traffic control systems, incident and emergency response systems, automated fare collection systems, real-time passenger information systems, computer-aided dispatch, and automated location systems.

Contacts

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3.2 Telecommunications

Sector Background

México presents a unique, and rapidly changing, environment in the telecommunications sector. As of 2012 there were only 20.2 million fixed lines recorded for a population of 121 million, but over 100.7 million mobile cellular users. There is a domestic satellite system with more than 120 earth stations, an extensive microwave radio relay network and substantial networks of fiber optic and traditional communications cables. México's fiber network is over 306,000 kilometers, of which 38,802 kilometers are federally owned and operated. There are more than 1,400 radio stations which are mostly privately owned. In 2012 the country ranked 9th globally with 16.2 million Internet hosts and ranked 12th with an estimated 31 million Internet users.

Performance

México performs lower relative to other developed countries in the telecommunications sector. By World Economic Forum measures it ranks 63rd out of 144 countries in accessibility of telecommunications services to the public, with a relatively low level of investment of \$35 per capita, and relatively high prices for consumers. In the area of broadband data connectivity access is only at 25% of the population, well below the OECD average, while the price per unit is the highest in the OECD. The country has a robust fiber optic network, but the coverage is not uniform and the quality of service and connectivity varies greatly. Strategic challenges identified by the government are:

1. Significant public and private underinvestment as measured per capita.
2. Low levels of relative penetration of broadband and mobile services.
3. High levels of participation of operators in the most profitable markets and the absence of incentives for participation in developing the less profitable markets, such as rural and poor populations.
4. Poor quality and coverage, and high costs.

Key drivers of these poor outcomes have been a weak regulatory regime, and telecommunications markets characterized by heavy concentration of ownership and control in the hands of a very small number of private interests.

Sectoral Reforms

The Mexican government is undertaking concrete and aggressive actions to reform the sector. In 2013 framework legislation reforming the constitution was passed by Congress to enable structural changes in the sector, including establishment of a stronger and independent regulatory body. As of this writing the secondary implementing laws were still under debate in the legislature. Unusually detailed primary legislation has enabled the restructured regulator, the Federal Telecommunications Institute (IFT), to move forward on a number of major initiatives, in the absence of detailed secondary legislation. Early in 2014 the IFT made a finding of monopolistic practices by the dominant private providers of telecommunications services in areas including mobile and fixed telephony, broadband, television and other means of communication and media. The findings and ongoing process of remediation have the potential to significantly open these markets to both domestic and foreign investment and competitive participation. This process is intended to lead to expansion of services to citizens, lower cost of services, and better quality of services. IFT has also opened the process to concession two

new national television channels and two new geostationary orbital positions for communications satellites. As part of the reform package the Federal Electricity Commission is required to transfer its fiber optic network infrastructure (previously operated as CFE Telecom) in an operating concession to SCT's Telecomm, which will be responsible for the development of this fiber "trunk network" and expanded provision of services to the public across this backbone.

Major Actors

There are two key public actors in this sector. The **Secretariat of Communications (SCT)** through the Sub-Secretariat for Telecommunications, is responsible for development of the nation's telecommunications policy and development and operation of public infrastructure. Telecomunicaciones de México (Telecomm) is the operating entity of SCT. Telecomm is responsible for the operations of public communications infrastructure and the provision of telecommunications, telegraphy and basic financial services to the population. Telecomm is the developer and operator of the national public telecommunications satellite program, MEXSAT, and is taking the concession to operate the national fiber optic trunk network, previously held by the national electricity company. Telecomm has a specific mandate to provide telecommunications services to disadvantaged and underserved regions and populations. The **IFT** is México's independent agency responsible for the supervision, regulation, and promotion of the use and development of the electromagnetic spectrum, telecommunications infrastructure and the provision of broadcasting and telecommunications services. There are several large private providers of telecommunications services in México, who due to their dominance, deserve to be mentioned. America Móvil provides fixed and mobile telephony, with over 70% of mobile subscribers, and also dominates provision of fixed line services. Televisa SAB, with \$5.3 billion in revenues in 2012, controls nearly 70% of the broadcast television market, as well as having diverse holdings in radio, print and content provision. TV Azteca, with nearly a billion dollars in annual revenue, is another multimedia conglomerate that controls most of the remaining 30% of the television market. Private company SATMEX S.A. de C.V., which operates a constellation of three telecommunications satellites transmitting on the C and Ku bands, was acquired by French firm Eutelsat Communications in 2014.

Goals and Investments

The Mexican government's objectives for the period through 2018 include increasing percentage of households with an internet connection from 26% to 50%, to increase the number of broadband internet users from 39% of the population to 65%, and to increase the number of small and medium businesses with broadband access by 20% from 2014.

The National Infrastructure Program sets a goal of \$51 billion in total investment to develop the telecommunications sector through 2018, across five programs or projects.

1. **Private Investment Resulting from the Constitutional Reforms of the Telecommunications Sector** is expected to generate nearly **\$38 billion** in investment. Major concessions, including two new national television stations, a fiber network PPP, and two geostationary satellite positions, will be key activities expected to leverage large amounts of private sector participation.
2. The **Development of the 700 MHz Shared Network** will bring last mile connectivity to millions of users, including rural areas and underserved populations, with a particular focus on wireless connectivity. The total

investment in this program is estimated at **\$9.9 billion**. Ample participation of private sector is expected in this program.


3. The **México Connected Program** will offer public broadband internet access through infrastructure to be established at thousands of government facilities across the country including schools, hospitals and government offices. The total expected investment in this program is **\$1.4 billion**.
4. The **Development of the Trunk Fiber Optic Network** will build upon the transfer of the CFE fiber network to Telecomm, and through a PPP structure enable significant expansion of this core telecommunications backbone. The expected investment is **\$743 million**.
5. The **Full Implementation of the MEXSAT Telecommunications Satellite System** will see the launch of the last of the three satellites in the constellation, development of the different types of vehicle mounted and portable ground terminals for end users, and full commissioning of the system. An expected **\$626 million** is expected to be invested to bring MEXSAT to full implementation.

Two other program opportunities are emergent that will be of interest to U.S. suppliers. The **project to provide cellular and satellite backhaul service to rural communities** will address the 2% of the population not covered by the fiber optic backbone and shared network projects. This will involve 100 communities in 2015, expanding ultimately to cover up to 5,000. The initial infrastructure medium will be satellite (provided through MEXSAT). This project, spearheaded by Telecomm, is expected to evolve over time as the terrestrial network is built out, and could include fiber, traditional copper, microwave or other wireless technologies to provide this rural connectivity. Opportunities exist for U.S. providers of hardware, software, content and services at the wholesale, retail and customer level. Another Telecomm project that leverages the investments spreading telecommunications infrastructure access is **provision of banking services to rural and underserved communities**. These are opportunities created for private firms to provide products and services, in partnership with Telecomm, to reach these populations. Besides the supporting telecommunications infrastructure Telecomm also provides the actual retail presence in these underserved communities, typically through space rented in the municipal centers. Telecomm is building 100 new branches in 2014 and intends ultimately to add over 1,500 locations. This will create opportunities for U.S. suppliers in the provision of network hardware and software, but also for service and content providers in areas such as provision of banking and transactional services, debit cards, and microcredit products.

The Federal Telecommunications Institute is in the preliminary phases of feasibility and scoping for two smaller initiatives, a wireless spectrum usage field monitoring and analysis platform to support regulatory enforcement, and a new system to support the real-time analysis of provision and quality of telecommunications services. More information on these opportunities is expected to be forthcoming from IFT by the fourth quarter of 2014.

Projects

Concessions for Two New National Television Broadcast Stations

	Project Type	Telecommunications
	State(s):	National
	Projected Investment:	More than \$126 Million
	Timeline:	2014 - 2015
	Project Sponsor(s):	Federal Telecommunications Institute (IFT)

Project Background and Scope

In mid-2013 the Mexican government approved the groundbreaking constitutional reform in the telecommunications sector. This package of primary legislation specified that within 180 days of its creation the new IFT would publish the terms and conditions and the request for proposals for new frequency concessions for broadcast television. These frequency allocation are grouped into two concession packages to offer national coverage. Current concessionaires in the 12 MHz or higher radio spectrum are prohibited from bidding for these two new concessions. The strategic objective of these concessions is to increase competition in the broadcast television market, to improve the quality of products and services offered, and reduce the costs to customers.

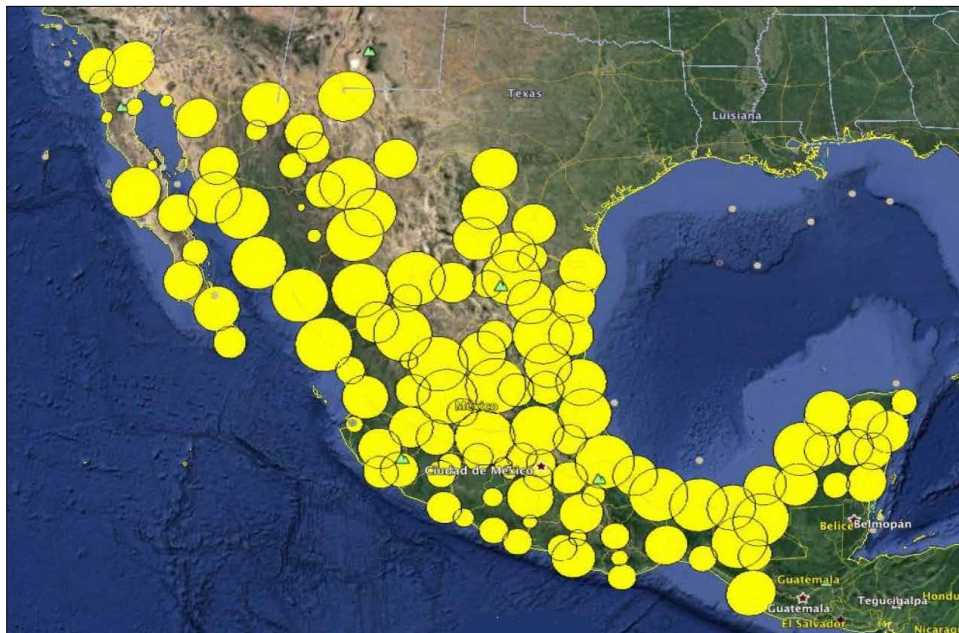


Figure 22: New Television Broadcast Networks Coverage Map

On September 23, 2013 the charter of the IFT was published, enabling the new agency to begin to execute its responsibilities. IFT published the procurement program for digital broadcast television frequencies on December 20, 2013. The procurement framework for the channel concessions was published on March 7, 2014. This release provided the station frequencies and geographic coverage available for the concessions. A tool is provided on the IFT website to enable bidders to propose their selection out of the 246 channels. Two channels

of 6 MHz are offered in each of 123 coverage zones. The bidders may choose from these as the basis of offers, considering that to meet the requirement of a national network they must cover at least 30% of the population in every state. The two concessions will be granted for terms of 20 years. United States entities are restricted to 25% participation in a bid for a concession, based on market access reciprocity agreements between our two nations. This restriction will not apply to provision of goods and services to the selected concessionaires in the course of operations.

Project Status and Implementation Timeline

Interested bidders are required to submit an application to the IFT by June 17, 2014, requesting an opinion in accordance with the federal law on economic competition. Decisions, favorable or not, will be released by the IFT's Unit of Economic Competition by the 9th of September, 2014. Those proposers receiving favorable opinions will form the short list of bidders eligible for the concessions.

Full proposals will include details on the technical, legal, administrative and financial capacity of the bidders, and provide comprehensive business plans. Concession awards criteria will include price (40% weighting and the proposed scale of coverage of the population (60% weighting). Proposals will be due the 17th of September. The list of proposers meeting the minimum requirements criteria for the proposals will be released by the 18th of December. Bidders who fail this technical evaluation may lose their security deposit. On January 22, 2015 the formal openings of the technical and financial offers will occur, followed by concession awards by March 25, 2015.

Project Cost, Financing and Procurement

The IFT has set the minimum reference value for each concession at just over 830 million pesos, or approximately \$63 million. Deposits in the amount of 415 million pesos, or approximately \$32 million, must accompany each bid. Security deposits will be returned to losing bidders. Proposers may bid for one national network, both national networks, or present a single package presenting both options. The Mexican government did not provide a discrete amount of estimated investment expected to be generated by this specific project in the PNI. Collectively the transactions enabled by the telecommunications reform program are estimated to realize more than \$38 billion worth of investment.


U.S. Export Opportunities

U.S. firms will have opportunities in several areas. As investors they may provide debt or equity financing to concessionaires in expectation of a return. They may participate as operators in concession consortiums. They may provide goods and services to the new concessionaires, in particular a wide range of capital items such as electronics, hardware and software, that are likely to be required as initial and ongoing investments to start up the new television channels. New concessionaires are expected to engage in substantial startup investments in facilities and equipment. Finally, U.S. providers of media content will have an opportunity to sell their products and services to the two new television chains. The new networks should create demand for brand new shows and commercials, as well as resale of legacy programming, also services such as dubbing or subtitling. U.S. advertisers for all types of goods and services will have access to two new television networks with national reach to promote their products, presumably on improved commercial terms than those they presently encounter in México, due to increased competition.

Project Contacts

Project Sponsor(s)	U.S. Trade & Development Agency	U.S. Commercial Service México
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Public Fiber Optic Backbone Network Expansion

	Project Type	Telecommunications
	State(s):	Nationwide
	Projected Investment:	\$745 million
	Timeline:	2014 - 2018
	Project Sponsor(s):	SCT Subsecretariat of Communications and Telecomunicaciones de México (Telecomm)

Project Background and Scope

México's total optical fiber telecommunications network is over 306,000 kilometers in length. Of this amount, 38,802 kilometers are federally owned, and the balance is privately held. The publicly held fiber network was originally established by the national electric company CFE in order to provide internal communications capabilities to support the monitoring and operation of the national power grid. After those needs were met the fiber had substantial excess capacity. SCT awarded a telecommunications operating concession to CFE to commercially exploit the network in 2006, and it began leasing bandwidth and providing services to businesses, telecommunications carriers, and government agencies. As of 2012 the subsidiary responsible for operating this network, CFE Telecom, reported 96 discrete clients and revenues of over \$67 million. This backbone network includes 112 hotels, or major access nodes, located in large and medium size cities. 52.2% of the population is within 40 kilometers of these major nodes.



Figure 23: México's Public Backbone Fiber Optic Telecommunications Network

Although the overall national fiber network is significant, as with the rest of the telecommunications market in México, the provision of services and access has focused on the most profitable customers. Prices have been high and investment low on a per capita basis. Only 50% of the population lives in areas with access to more

than one provider's fiber optic network, another 15% have fiber access through only one provider, and 35% have no access to fiber.

As a part of the 2013 constitutional reform of the telecommunications sector, the concession to operate this public backbone is to be transferred from CFE to SCT's Telecomm. This concession includes the right to install, operate and use the network, and transfers all the resources and equipment needed to commercialize the asset. CFE will retain under its administration the core physical assets including the fiber optics, right of way, towers, posts buildings and facilities, in an infrastructure manager role. Telecomm, as the operating concessionaire, joined with a private partner, will hold the authority to promote access and to plan, design and execute the construction and growth of this public backbone network. It is expected that the new partnership will develop the network substantially by building out 35,000 kilometers of new fiber optic line. Accompanying the fiber build-out, the project will include construction of 972 "mini-hotels" which are nodes providing connectivity to the major hotels on the backbone. These will be in medium-size cities and bring another 35.5% of the population within 40 kilometers of a fiber node, enabling retail service providers to offer direct access or connectivity by microwave link.

The concession transfer and development of the network is an important component supporting other major telecommunications programs, including the *700 MHz Shared Network* and *México Connected*. The backbone network will serve as core national infrastructure supporting data transmission for the enhanced offerings of access, infrastructure and services at the local "last mile" level that these other two national programs will provide. Strategically the national policy intent of this development will be to fill geographic and capacity gaps, strengthening the overall provision of high-capacity telecommunications links across the country, rather than creating overcapacity or redundancy in areas that are well served.

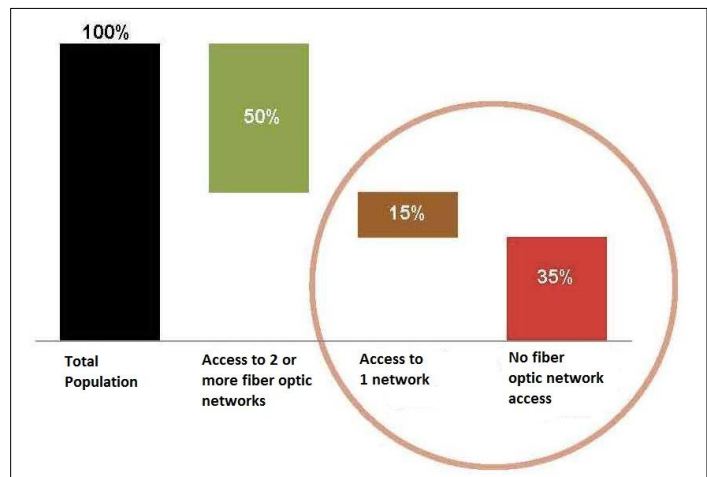


Figure 24: Current Access to Fiber Optic Networks as a Percent of Population

Project Status and Implementation Timeline

The Federal Telecommunications Institute (IFT) is preparing a structure to enable an open competition for a private partner to join with Telecomm in the development and operations of this network. The procurement opportunity is expected to be finalized and opened for bid in 2014. Finalization of the terms and structure is dependent upon the finalization of the secondary legislation component of the telecommunications reform activity, begun in 2013 and expected to be completed in 2014.

Project Cost, Financing and Procurement

The investment in the development of the network under the new public-private structure with Telecomm is expected to be over \$745 million. A significant portion of this value is expected to be provided by the private partner in the form of initial and ongoing capital investment. The potential returns from serving in the operator

role are expected to generate significant customer revenues. The procurement will be competitive and the commitments to capital investment by the bidders are expected to be an important factor in the award decision.

Component	Units	Unit Costs	Value	Total
New Fiber	34,725 kilometers	\$18,000/kilometer	\$ 625.1 million	\$ 745 million
Medium Hotels	290 hotels	\$250,000 each	\$ 72.5 million	
Mini-Hotels	682 hotels	\$ 70,000 each	\$ 47.7 million	

Figure 25: Fiber Backbone Network Cost Components


U.S. Export Opportunities

This project will create several export opportunities for U.S. firms. U.S. companies should have an opportunity to participate as operating and investment partners with Telecomm. The degree of participation opportunity will be determined by the final structure of the procurement. It is likely that some level of local partnering (usually prudent in México) will be required. U.S. providers of hardware including items such as routers, fiber optic cabling and components, and network management devices, as well as a range of software offerings, are potential beneficiaries of the anticipated physical expansion. Providers of retail carrier services will be able to utilize the expanding network to grow their offerings. Providers of multimedia content and network and application services should benefit from the project. The expanded backbone should offer a more level playing field for access, more competitive pricing, higher levels of quality of service, and increased connectivity to a larger customer base, allowing providers reach more viewers and users with their products and services.

Project Contacts

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700 MHz Shared Network Development

	Project Type	Telecommunications
	State(s):	Nationwide
	Projected Investment:	\$10 billion
	Timeline:	2014 - 2018
	Project Sponsor(s):	Telecomm (SCT) and IFT

Project Background and Scope

México's telecommunications market is dominated by two major providers of telecommunications services. Despite strong profitability the market suffers from a significant infrastructure gap with insufficient wireless antenna coverage, limited infrastructure resulting in poor quality voice and data service, and limited coverage by third- and fourth-generation services. By 2012 México was at the bottom of all countries in Latin America, excepting Cuba, as measured by unique subscribers and access per 100 inhabitants.

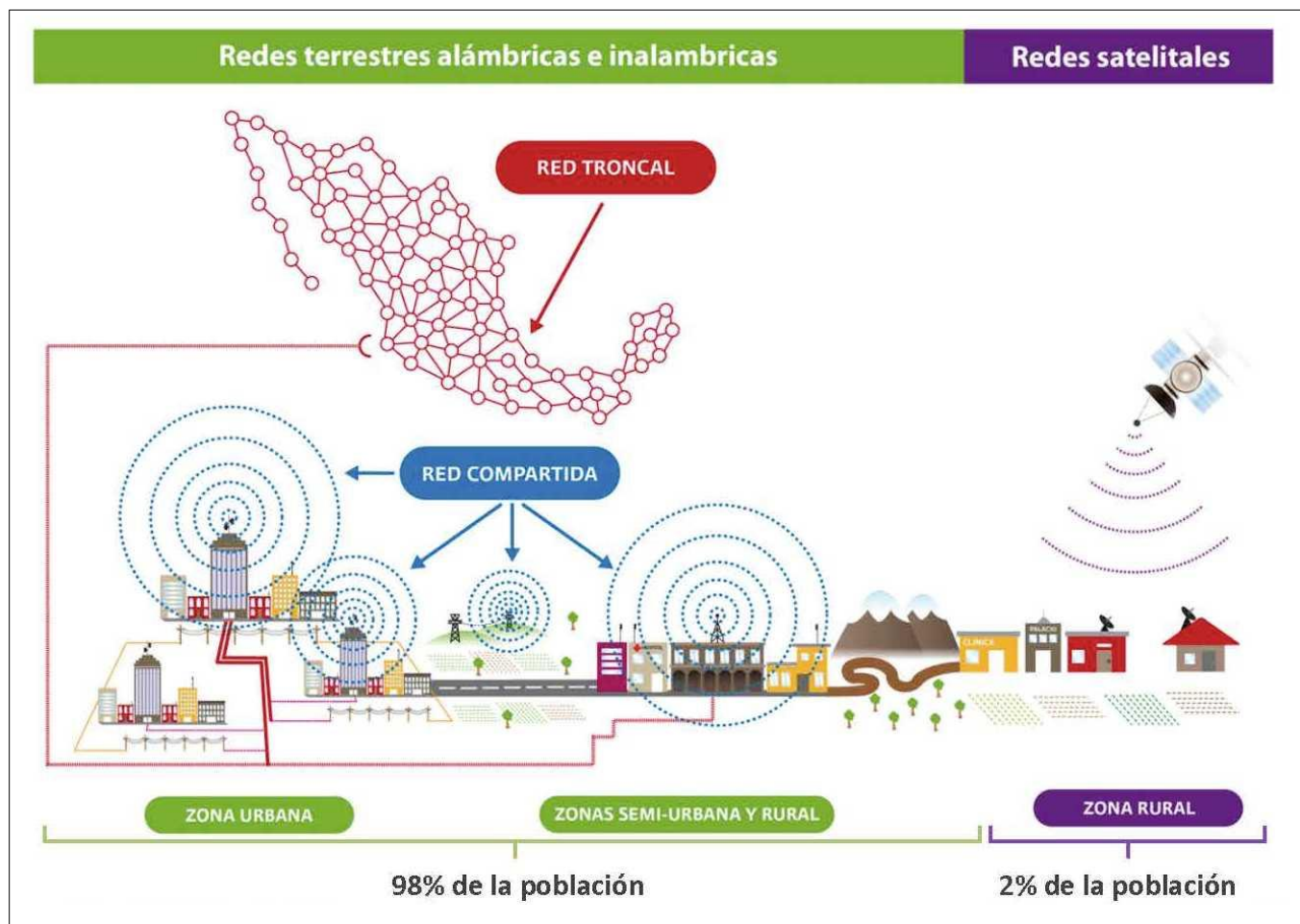


Figure 26: Overview of the Structure of the 700 MHz Shared Network

In the face of this weakness, demand for advanced telecommunications service access continues to grow. The market demand is shifting rapidly from voice to mobile data. Smartphone capabilities and capacity continue to grow as prices per handset drop, making a key hardware platform economically accessible to much more of the population. New 4G/LTE services, besides providing improved latency and bandwidth, have the capability to reduce mobile data costs substantially, providing economic access for more of the population to the service component.

The shared network is a nationwide project that will provide a neutral wireless infrastructure access platform, managed by a wholesale provider of broadband telecommunications services. It is a key component of the telecommunications reform effort that will leverage the additional nationwide connectivity to be created by the project to expand the public fiber backbone network. The project will utilize a 90 MHz portion of the 700 MHz band. The infrastructure of this new network is planned to consist of 8,165 towers, antennas, and radio base stations, tied into the national public fiber optic backbone through physical and microwave links. It will support both voice and data traffic. This new system is expected to enable provision of competitive services by multiple private retailers across presently underserved markets, improving access to, and quality of, services, and reducing costs relative to current prices. This project is expected to enable extension of quality, affordable wireless data service to up to 98% of the population by 2024.

Project Status and Implementation Timeline

The procurement structure is under preparation at the time of this writing and is expected to be released before the end of 2014. The initiation of the project has been delayed because 18 television channels in the northern part of the country presently are using parts of the future shared network spectrum for analog broadcasts. The government is working to expedite the transition of these service areas to digital television broadcasting, freeing up the necessary bandwidth. An accelerated digital television transition program has been introduced in these areas (including Tamaulipas, Nuevo Leon, and Coahuila) to facilitate this transfer.

Project Cost, Financing and Procurement

This project is planned to be structured as a public-private partnership between a private firm, or a consortium, working in association with SCT's Telecomm. The total investment opportunity associated with this initiative is estimated at approximately \$10 billion dollars. The preliminary estimate by SCT/IFT is that a private partner may bring as much as \$3.5 billion dollars to the table as their participation.


U.S. Export Opportunities

This project will create several export opportunities for U.S. firms. U.S. companies should have an opportunity to participate as operating and investment partners with Telecomm. The degree of participation opportunity will be determined by the final structure of the procurement. It is likely that some level of local partnering (usually prudent in México) will be required. U.S. providers of hardware including items such as routers, cabling and components, wireless and microwave nodes, and network management devices, as well as a range of software offerings, are potential beneficiaries of the anticipated physical expansion. Providers of retail carrier services will be able to utilize the expanding network to grow their offerings. Providers of multimedia content and network and application services should benefit from the project. The expanded local access should offer a more level playing field for access, more competitive pricing, higher levels of quality of service, and increased connectivity to a larger customer base, allowing providers reach more viewers and users with their products and services.

Project Contacts

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MEXSAT System Completion

	Project Type	Telecommunications
	State(s):	Nationwide
	Projected Investment:	\$1.7 billion (\$627 million pending)
	Timeline:	2014 - 2015
	Project Sponsor(s):	SCT Telecomunicaciones de México (Telecomm)

Project Background and Scope

The Sistema Satelital Mexicano (MEXSAT) program was begun in 2009. It since has purchased three satellites originally designated as MEXSAT 1, 2 and 3, then renamed respectively as *Centenario*, *Morelos III* and *Bicentenario*. The system includes two ground stations (primary in Iztapalapa and a backup in Hermosillo), network operations systems and 67 reference user terminals. Orbital Sciences Corporation, under contract to Boeing, was responsible for providing the fixed satellite services ground segment including command and control systems, software, training and documentation.

- **Bicentenario (MEXSAT 3)** was launched in 2012. This satellite is a GEOSTAR-2 manufactured by Orbital Sciences Corporation. The launch service was provided by Arianespace from the Kourou Spaceport in French Guiana. It is in operation providing fixed (geosynchronous) satellite services from the position 114.9° West longitude on the C and Ku bands.
- **Centenario (MEXSAT 1)** is contracted to be launched in 2014 from Baikonur Cosmodrome in Kazakhstan on a Proton M rocket. This satellite is a BSS-702HP platform manufactured by Boeing Corporation that provide service from a geosynchronous orbit at 113° West longitude. 5-panel solar array wings will provide 14 kilowatts of power and it will carry a 22-meter L-band reflector for mobile terminal links, complemented by a 2-meter Ku-band antenna.
- **Morelos III (MEXSAT 2)** is contracted to be launched in 2015 from Cape Canaveral, Florida, on an Atlas V vehicle provided by Lockheed Martin Corporation. The satellite model is the same configuration and

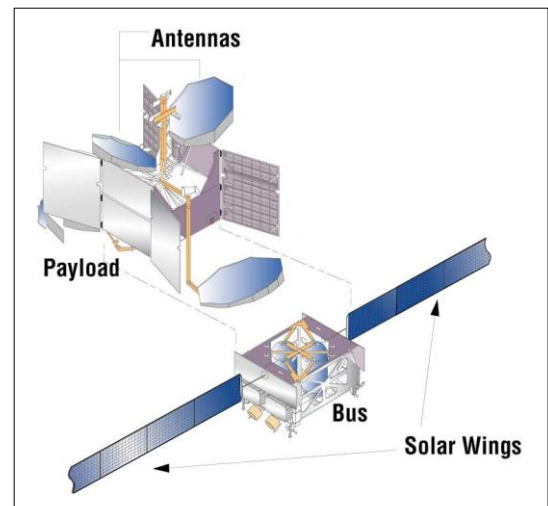


Figure 27: Boeing BSS-720HP Satellite (MEXSAT)

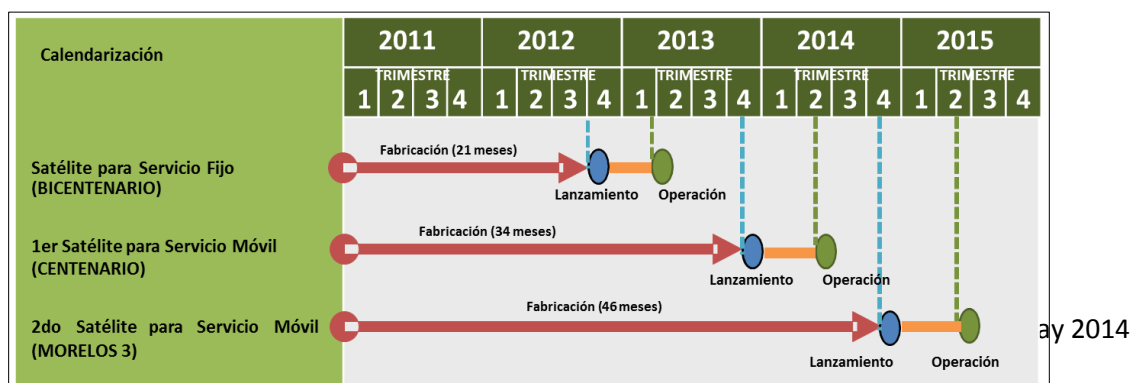


Figure 28: MEXSAT System Development Timeline

provides the same functionality as Centenario. It will operate from 116.8 West longitude.

The MEXSAT government program should not be confused with private company Satelites Mexicanos (SATMEX), recently purchased by French firm EUTELSAT, which manages a constellation of three satellites operating in the C and Ku bands.

The MEXSAT system is managed by Telecomunicaciones de México (Telecomm) and it will provide voice and data satellite communications products and services to support national security, civil and humanitarian efforts, and rural connectivity. Besides the launches and commissioning of the final two satellites, the remaining major program component is development of the standard user terminal designs for marine, aviation, ground vehicle and portable (handheld) applications.



Figure 29: MEXSAT System México Coverage Area

The MEXSAT program has benefitted from over \$900 million in loan guarantees to U.S. suppliers through the U.S. Export-Import Bank.

Project Status and Implementation Timeline

The procurement for the non-recurring engineering of user terminal prototypes is expected to be released by mid-2014. Users are expected to proceed with purchasing their terminals upon approval of the products by Telecomm, through discrete procurement opportunities.

Project Cost, Financing and Procurement

The MEXSAT system federal budget, by year, is as follows:

2010	2011	2012	2013	2014	2015
\$214.6	\$338.7	\$339.3	\$437.2	\$244.0	\$146.6
Total: \$1.7 Billion					

Table 13: MEXSAT System Development Budget by Year

The PNI estimates the remaining investment opportunities associated with the program are \$627 million, including launch services and user terminal development. Launch services for the remaining two satellites have been contracted and are planned for 2014 and 2015. The Mexican government is in the process of selecting a short list of companies from whom it will solicit proposals for user terminal development, with RFP's expected to be released to that group in September of this year.

U.S. Export Opportunities


U.S. suppliers will have the opportunity to be paid to perform the non-recurring engineering tasks to develop the standardized user terminal models for approval by Telecomm. Following approval they will have access to provide their developed, approved, and standard user terminal products to be sold to meet market demand by public and private users. Telecomm estimates that 25,000 units will be procured in 2015, and ultimately over 100,000 devices will be sold.

Another opportunity exists associated with this program in the area of provision of the launch and first year of operations insurance coverage for the remaining two satellites.

Project Contacts

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Concessions for Two Geostationary Satellite Positions

	Project Type	Telecommunications
	State(s):	Nationwide
	Projected Investment:	To be determined
	Timeline:	2014
	Project Sponsor(s):	IFT

Project Background and Scope

México has received the authority from the International Telecommunications Union (ITU) to operate two geostationary telecommunications satellites and associated communications frequencies. These positions will serve to provide fixed satellite services covering all of México's territory. Exploitation of these resources will support many of the national development objectives, include expansion of telecommunications infrastructure, improvement of competition in provision of telecommunications services, and providing broader access to telecommunications offerings. These satellite positions will be dedicated for commercial use.

Position	Designation	Frequency	Downlink	Uplink	MHz
113.0° West	MEXSAT 113 KU EXT	Ku Extended	11 450 – 11 700	13 750 – 14 000	500 (250 x 2)
113.0° West	MEXSAT 113 L-CEXT-X	C Extended	3 400 – 3 700	6 425 – 6 725	600 (300 x 2)
116.8° West	MEXSAT 116.8 KU EXT	Ku Extended	11 450 – 11 700	13 750 – 14 000	500 (250 x 2)
116.8° West	MEXSAT 116.8 L-CEXT-X	C Extended	3 400 – 3 700	6 425 – 6 725	600 (300 x 2)

Table 14: New Geostationary Telecommunications Satellite Position Parameters

Successful and timely exploitation of the authorities provided by ITU for satellite positions is important. These are valuable and desired resources. In the case of failure to operate by the authorities, position awards are subject to revocation by ITU and being granted to other interested countries.

Project Status and Implementation Timeline

IFT intends to complete this procurement by the end of 2014. Preparation of the concession package is underway. Implementation of the procurement may be dependent upon elaboration of the secondary telecommunications legislation which is still under development in Congress.

Project Cost, Financing and Procurement

It is expected that the positions will be auctioned as twenty year concessions to private operators. Up to 100% foreign involvement will be permitted. The value of the concessions has not been defined publicly as it will be determined by offers made by competing entities to manage the concessions. As successful exploitation will involve construction of satellites, ground facilities, user terminals and associated infrastructure, entail procurement of launch services, and subsequent provision of satellite telecommunications services for profit over two decades, the total investment associated with this activity is expected to be several billion dollars.

U.S. Export Opportunities

U.S. export opportunities will include participation as providers of debt and/or equity for bidders, participation in consortiums to manage the concession, participation in an operating role, provision of satellites and associated infrastructure, provision of launch services, and provision of insurance. The new bandwidth should indirectly support providers of content as it will help broaden the general reach of telecommunications services to various users across México.

Project Contacts

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4. Infrastructure Financing

Domestic Financing

National Budget and Programs

México's first multi-year, multi-sector infrastructure financing program, the National Infrastructure Program (PNI by its Spanish acronym), covered the period and 2007 – 2012. Initiated by President Peña Nieto's predecessor, President Felipe Calderón, this programmatic approach planned \$233.8 billion in infrastructure investment. This was composed of investments of \$110.9 billion in oil and gas infrastructure, \$35.1 billion in electricity infrastructure, \$26.1 billion in telecommunications, and \$26.5 billion in road and highway spending. A total of \$41 billion was allocated for all transportation infrastructure projects.

At over \$590 billion in projected total investment, the 2014 – 2018 PNI exceeds the previous multi-year plan by 133%. It encompasses a wide variety of projects in the sectors of transportation, telecommunications, energy and water, as in the previous program. It adds spending for additional infrastructure projects in the sectors of tourism, urban development, and health.

Uses of Funds by Sector	Planned Investment (Billions)	As a Percent
Energy	\$ 297.2	50%
Urban Development & Housing	141.9	24%
Transportation	51.4	9%
Telecommunications	49.3	8%
Water	31.9	5%
Tourism	13.8	2%
Health	5.6	1%
TOTAL	\$ 591	100%

Table 15: PNI Uses of Funds

Sources of Investment Funds	Planned Investment (Billions)	As a Percent
Federal Budget	\$ 270.9	45.8%
Private Investment	218.5	37.0%
Entity Internal Funds	70.4	11.9%
Subsidies	15.4	2.6%
State Funds	6.8	1.1%
FONADIN	5.1	0.9%
Other Trust Funds	2.9	0.5%
Municipal Funds	0.9	0.1%
TOTAL	\$ 591.0	100.0%

Table 16: PNI Sources of Funds

A significant portion of the funding to execute the PNI is expected to come from two non-state sources. Entity internally generated funds, such as from user and customer fees paid to productive state enterprises, like CFE and PEMEX, will account for 11.9% of investment. Investments by investors, operators and concessionaires are expected to account for 37% of program funding. The percentage of funding sources varies significantly, by sector and by project. Some projects are fully supported by the federal government, and at the other end of the spectrum there are projects that are expected to leverage private investment for nearly their full cost. The implementation of a range of ongoing major reforms in energy, telecommunications, and other sectors is expected to enable this significant reliance on non-traditional funding sources.

BANOBRAS and FONADIN

The National Bank of Works and Public Service, BANOBRAS, is México's national domestic development bank. Founded in 1933, the mission of BANOBRAS is to provide financing for projects receiving direct or indirect public funding in the areas of infrastructure and provision of public services. In parallel with its financing activities an important objective of the bank is to support the institutional strengthening of state and local units of government and to further sustainable development. BANOBRAS-supported project goals include defined targets in areas such as development of basic social infrastructure, enhancement of national competitiveness, support to economic growth, and generation of significant net public benefits. In 2012 BANOBRAS reported providing assistance in various forms in the amount of USD \$1.2 billion and holding total assets of USD \$26.7 billion. 63% of project credit in 2012 was dedicated to road projects (particularly public-private partnership toll roads), another 15% to energy, 13% to security, and 6% to water and sanitation.

Since 2001 BANOBRAS has shifted its focus from traditional direct financing of infrastructure projects to tools boosting municipal access to credit and to technical assistance, strengthening of the sub-national debt market through guaranties, and development of the project financing market. More recently a particular emphasis has been placed on assisting projects that will generate their own revenue streams, and with private participation in development and operations.

BANOBRAS is also responsible for managing the National Infrastructure Fund (FONADIN). FONADIN is a national trust fund that was created in 2008 as a specific vehicle to provide grants, loans and guarantees, with initial capitalization and its own operating revenue sources. FONADIN is tasked with supporting and coordinating investments in communication, transportation, water, environment, and tourism projects. Besides providing very long-term financing, a key role of FONADIN is to assume the portion of project financing risk that the private sector will not bear. This enables leveraging of the maximum private participation in projects with high net public benefits, but higher risk and lower levels of financial profit. In 2012 FONADIN authorized support for more than USD \$2.4 billion in projects. FONADIN supported projects must have private participation, be bid competitively through an impartial process, and generate revenue streams sufficient for full or partial repayment. In 2012 projects supported included light rail and heavy metro expansions, toll roads, and wind power generation. In the last five years, all of the federal toll road PPP projects have received some kind of support from FONADIN. In the Private Equity program, FONADIN has committed \$400m to support eight different private equity funds, with a total market cap of \$2.4bn. This is particularly relevant because México simply did not have these kinds of funds pre-2009.

Most of FONADIN's efforts are channeled through a structure with distinct programs for sanitation, water, mass transit, toll roads and private equity funds support.

AFOREs

México's privately-administered defined-contribution pension funds are known by their Spanish language acronym as AFOREs. Collectively over USD \$140 billion is managed by these funds. Historically the bulk of these funds – over 80% - were invested in Mexican government debt. Following a series of reforms the AFOREs have begun to significantly diversify their holdings by shifting allocations into more complex portfolios including foreign securities and equities. The law now permits AFOREs to make investments in real estate and infrastructure project unlisted debt and equity instruments.

External Financing

World Bank Group

Established in 1944, the World Bank Group is composed of five organizations. The International Bank for Reconstruction and Development (IBRD) lends to governments of middle- and low-income countries. The International Development Association (IDA) provides interest-free loans and grants to the poorest countries. The International Finance Corporation (IFC) focuses on the private sector by financing investment, mobilizing capital and providing advisory services. The Multilateral Investment Guarantee Agency (MIGA) provides political risk insurance to investors and lenders. The International Centre for Settlement of Investment Disputes provides facilities for conciliation and arbitration of investment disputes.

The World Bank Group has two fundamental goals: end extreme poverty and promote shared prosperity. It provides assistance to many sectors including energy, telecommunications, water and sanitation, and transportation. In 2012 the IBRD and IDA combined made \$30.8 billion in disbursements and had \$259 billion in loans and credits outstanding.

All the World Bank components are active in México except the IDA. As of this writing a new Country Partnership Strategy is being finalized by the Bank, aligned with México's National Development Plan through 2018. Strategic goals are to include increasing productivity, ensuring poorer segments of society benefit from - and can contribute to - growth, combining economic and environmental aspects of sustainable development and, strengthening public finances and improving government efficiency. As of this writing over \$2.4 billion in support is being provided to México across 29 projects. A wide range of infrastructure projects are among these current activities, including in the sectors of green energy, telecommunications, mass transit, and water. An example is the \$350 million MX Urban Transport Transformation Program, which is providing support to many transit projects across México, leveraging funds from other sources such as FONADIN's national PROTRAM program, the World Bank, and state and local resources. This program is an example of one that has substantial resources remaining to be disbursed, over \$322 million. These funds will leverage much substantial resources to support many projects of potential interest to U.S. exporters in the mass transit sector through 2018.

Inter-American Development Bank

The Inter-American Development Bank is a multilateral regional development bank established in 1959. IDB has 48 member countries of which 26 are Latin American and Caribbean borrowing members, including México. Just over 50% of the Bank's capital stock is held by regional developing member countries and the United States holds a 30% share. Since its inception the IDB has provided over \$226 billion in support to borrowing members in the form of loans, grants, technical assistance and research. Of this amount México has received \$28.6 billion for a wide array of projects including various infrastructure development projects.

The IDB's country strategy through 2018 is to stimulate productive, social, and territorial development in order to boost the Mexican economy's growth potential. The bank will support the country in the areas of: 1.) public management; 2.) the financial system; 3.) labor markets; 4.) business competitiveness; 5.) social protection; 6.) health; 7.) urban development; 8.) rural development; and 9.) climate change. Infrastructure investment priority areas will include urban transportation, telecommunications, logistics optimization, energy efficiency, and financial tools and programs to enable leveraging of non-IDB sources of financing for investments in infrastructure projects.

As of this writing Mexican projects and facilities under preparation are proposed to receive more than \$1.2 billion in IDB support. This project pipeline includes such proposals as provision of direct financing for the Manzanillo Container Port and Logistics Facility in the amount of \$172.5 million, \$90 million for a fund to support exploration and development of geothermal energy projects, and \$450 million proposed for national development Bank NAFINSA to lend to support development of cogeneration facilities.

North American Development Bank and the BECC

The North American Development Bank (NADB) and the Border Environment Cooperation Commission are sister institutions established as a joint effort of the U.S. and Mexican governments to enhance the environmental conditions and the quality of life for the people living along both sides of the U.S.-México border. These interdependent institutions work with project sponsors and local communities to develop, finance and build self-sustaining projects. BECC focuses on the technical aspects of project development, verifying the technical viability, environmental and health impacts of projects through a formal certification process. For projects certified by the BECC, NADB then offers direct financing in the form of loans and grants to public and private entities for the implementation of the projects. NADB also offers technical assistance for institutional capacity and planning for the development of sustainable infrastructure. The NADB portfolio includes projects in the sectors of water/wastewater and drainage, air quality, solar and wind energy, and energy efficiency. NADB financing is done at relatively low interest rates and may be for up to 25 year terms. It may not be used to finance more than 85 percent of the eligible costs of a project.

To be eligible for NADB financing a project must remedy an environmental or human health problem, must pass the BECC certification process, and normally must be located within 62 miles north of the border in Texas, New México, Arizona or California, or 186 miles south of the border in the states of Tamaulipas, Nuevo Leon, Coahuila, Chihuahua, Sonora or Baja California. For projects supported in the Mexican states, a Mexican entity, COFIDAN, is linked to the NADB and used to channel the NADB funding.

As of this writing NADB has financed more than 171 infrastructure projects in the border region through over \$1.9 billion in loans and grants. In 2013 alone, the bank disbursed over \$215 million in loans and \$17.9 million in grants. Some projects approved in recent months by BECC for NADB support include wastewater treatment plant improvements in California, a wind energy plant in Baja California, street paving in Sonora, and a solar energy park in Texas.

United States Trade and Development Agency

The United State Trade and Development Agency (USTDA) is an independent U.S. Government foreign assistance agency that is funded by the U.S. Congress. USTDA seeks is to help companies create U.S. jobs through the export of U.S. goods and services for priority development projects in emerging economies. USTDA links U.S. businesses to export opportunities by funding project planning activities, pilot projects, and reverse trade missions while creating sustainable infrastructure and economic growth in partner countries.

USTDA provides grant funding to overseas project sponsors for the planning of projects that support the development of modern infrastructure and an open trading system. The hallmark of USTDA development assistance has always involved building partnerships between U.S. companies and overseas project sponsors to bring proven private sector solutions to developmental challenges.

USTDA's programs are responsible for generating over \$23 billion in U.S. exports to emerging markets, supporting an estimated 110,000 U.S. jobs over the last 10 years. That means \$73 in exports of U.S.-manufactured goods and services for every \$1 programmed.

USTDA carries out its mission by providing grants directly to overseas project sponsors who, in turn, select U.S. companies to perform the USTDA-funded activities. While USTDA projects span a wide variety of sectors, many focus on energy (with a particular focus on clean energy), transportation, telecommunications, and environmental services. USTDA finances activities in areas such as technical assistance, project feasibility studies, and pilot projects.

Export-Import Bank of the United States

The Export-Import Bank of the United States (Ex-Im) is the official export credit agency of the U.S. with a mission to assist U.S companies of all sizes in financing the export of U.S. goods and services to international markets.

Ex-Im does not compete with private sector lenders; they export financing products that fill gaps in trade financing. Ex-Im assumes the credit and country risks that the private sector is unable or unwilling to accept. They also help to level the playing field for U.S. exporters by matching the financing that other governments provide to their exporters. A strategic Partner of USTDA, Ex-Im provides working capital guarantees (pre-export financing), export credit insurance, and loan guarantees and direct loans (buyer financing). No transaction is too large or too small. On average, more than 85% of their transactions directly benefit U.S. small businesses.

In 80 years of its existence, Ex-Im has supported more than \$567 billion of U.S. exports, primarily to developing markets worldwide. Ex-Im Bank supports more exports to México than to any other country. This already strong relationship was strengthened even further in 2011 with a \$75 million trade facility for Banco Nacional de Comercio Exterior (BANCOMEXT), México's official export credit agency. The facility allows expedited review of

qualified financing requests from Mexican buyers of U.S. goods and services, when BANCOMEXT serves as the borrower of record.

Overseas Private Investment Corporation

The Overseas Private Investment Corporation (OPIC) is the U.S. Government's development finance institution that generates private capital to help solve critical development challenges and in doing so, advances U.S. foreign policy. Because OPIC works with the U.S. private sector, it helps U.S. businesses gain footholds in emerging markets, catalyzing revenues, jobs and growth opportunities both at home and abroad. OPIC achieves its mission by providing investors with financing, guarantees, political risk insurance, and support for private equity investment funds.

Established as an agency of the U.S. Government in 1971, OPIC services are available for new and expanding business enterprises in more than 150 countries worldwide, including México. Globally to date, OPIC has supported more than \$200 billion of investment in over 4,000 projects, generated an estimated \$76 billion in U.S. exports and supported more than 278,000 American jobs.

OPIC was granted permission to offer its full range of programs services in México by the Mexican Congress in August of 2004. In 2013 over \$80 million in support was provided to ventures in México through a combination of finance and investment funds.

The United State Commercial Service in México

The U.S. Commercial Service (USCS) is the trade promotion arm of the U.S. Department of Commerce's International Trade Administration. USCS works within the United States and in U.S. Embassies and Consulates in nearly 80 countries worldwide. The USCS network of trade professionals connects U.S. companies with international buyers, providing them with market intelligence, trade counseling, business matchmaking, and advocacy and commercial diplomacy support.

U.S. Small Business Administration

The U.S. Small Business Administration (SBA) was created in 1953 as an independent agency of the federal government to aid, counsel, assist and protect the interests of small business concerns, to preserve free competitive enterprise and to maintain and strengthen the overall economy of our nation. SBA recognizes that small business is critical to the economic recovery and strength, to building America's future, and to helping the United States compete in today's global marketplace. Although SBA has grown and evolved in the years since it was established in 1953, the bottom line mission remains the same. The SBA helps Americans start, build and grow businesses. Through an extensive network of field offices and partnerships with public and private organizations, SBA delivers its services to people throughout the United States, Puerto Rico, the U. S. Virgin Islands and Guam.

SBA's office for the support of small business international trade development, the Office of International Trade works in cooperation with other federal agencies and public- and private-sector groups to encourage small business exports and to assist small businesses seeking to export. Through a network of 19 U.S. **Export Assistance Centers**, SBA district offices and a variety of service-provider partners, they direct and coordinate

SBA's ongoing export initiatives in an effort to encourage small businesses going global. SBA provides tools such as the **Export Business Planner** to help small businesses work through the processes of export readiness and planning.

The **State Trade and Export Promotion Grant Program (STEP)** is a 3-year pilot trade and export initiative to make matching-fund grants for states to assist “eligible small business concerns,” enter and succeed in the international marketplace. Services under the STEP Program are funded in part by SBA, but are provided to eligible small business concerns – or “STEP Clients” - by STEP grant recipients located in most states and territories, and the District of Columbia.

SBA provides a number of loan programs specifically designed to help develop or expand trade and export activities. The **Export Express program** offers financing up to \$500,000. Using a network of approved lenders, SBA determines eligibility and can provide a loan approval in 36 hours or less. **Export Working Capital loans** provide advances for up to \$5 million to fund export transactions from purchase order to collections. These loans have a low guaranty fee and quick processing time. Finally SBA's **International Trade Loan Program** provides small businesses with enhanced export financing options for their export transactions. The ITL is designed to help small businesses enter and expand into international markets and, when adversely affected by import competition, make the investments necessary to better compete. The ITL offers a combination of fixed asset, working capital financing and debt refinancing with the SBA's maximum guaranty— 90 percent— on the total loan amount.

5. Further Reference

- **Gobierno de la Republica: National Development Plan (PND) 2012 – 2018**
<http://pnd.gob.mx/>
- **Gobierno de la Republica: National Infrastructure Plan (PNI) 2012 – 2018**
<http://presidencia.gob.mx/pni/>
- **Secretaria de Comunicaciones y Transportes: Investment Program for Transportation and Communications 2013 – 2018**
http://www.sct.gob.mx/fileadmin/GITS/PIITC_-_SCT.pdf
- **Secretaria de Comunicaciones y Transportes: Sector Development Plan for Transportation and Communications**
<http://www.sct.gob.mx/>
- **BANOBRAS**
<http://www.banobras.gob.mx>
- **International Monetary Fund: México Documents and Reports**
<http://www.imf.org/external/country/MEX/>
- **The World Bank: Country Office for México**
<http://www.worldbank.org/en/country/mexico>
- **The North American Development Bank**
<http://www.nadbank.org/>
- **The Inter-American Development Bank**
<http://www.iadb.org>
- **United States Trade and Development Agency**
<http://www.ustda.gov/>
- **U.S. Commercial Service México**
<http://export.gov/mexico/>
- **Overseas Private Investment Corporation**
<http://www.opic.gov>
- **The Export-Import Bank of the United States**
<http://www.exim.gov/>
- **United States Small Business Administration Office of International Trade**
<http://www.sba.gov/about-offices-content/1/2889>

6. Glossary of Terms and Acronyms

BANOBRAS	Banco Nacional de Obras y Servicios Públicos, S.N.C, México's national development bank.
CFE	Comisión Federal de Electricidad, the Federal Electric Commission, the parastatal company responsible for provision of electrical service in México.
CG	Compromiso General. This refers to a government investment project that has been explicitly committed for execution by the President.
Ex-Im	The Export-Import Bank of the United States, an independent agency of the U.S. federal government.
FONADIN	Fondo Nacional de Infraestructura, the national infrastructure fund, is a trust fund for coordinating government investments to develop infrastructure in the sectors of communications, transportation, water, environment and tourism. FONADIN is managed by BANOBRAS.
IADB	Inter-American Development Bank.
IFT	Instituto Federal de Telecomunicaciones, or the Federal Telecommunications Institute is an independent agency tasked with the regulation, oversight and development of México's telecommunications sector.
NADB	North American Development Bank.
OPIC	The Overseas Private Investment Corporation, and independent agency of the U.S. government.
PND	Programa Nacional de Desarrollo, the Mexican government's top level development policy document.
PNI	Programa Nacional de Infraestructura, the National Infrastructure Plan. This is the Mexican government's formal list of infrastructure projects and total projected investment amounts for the period 2012-2018.
PROTRAM	México's Federal Support Program for Urban Mass Transport. An instrument of FONADIN, it is administered by BANOBRAS.
SCT	Secretaria de Comunicaciones y Transportes. This is the Mexican cabinet-level Ministry responsible for development and oversight of all modes of transportation and telecommunications.
SEDATU	The Mexican federal government Secretariat for Agricultural, Territorial and Urban Development.

SEDESOL	The Mexican federal government Secretariat for Social Development.
SEMARNAT	The Mexican federal government Secretariat for the Environment and Natural Resources.
SENER	Secretaria de Energia. This is the Mexican cabinet-level Ministry responsible for oversight and development of energy resources.
Telecomm	Telecomunicaciones de México is an operating entity of the Secretariat of Communications and Transports. Telecomm is responsible for providing basic telecommunications and information services to government agencies and to the public through an infrastructure including fiber optic networks and satellites.
UTTP	The Urban Transport Transformation Program, a component to FONADIN's PROTRAM that receives some financing and technical assistance support through the World Bank.